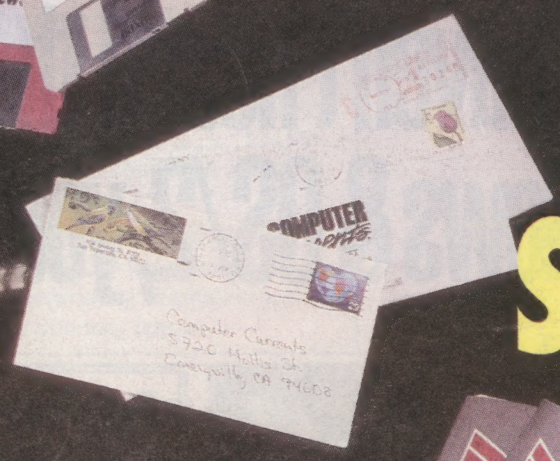
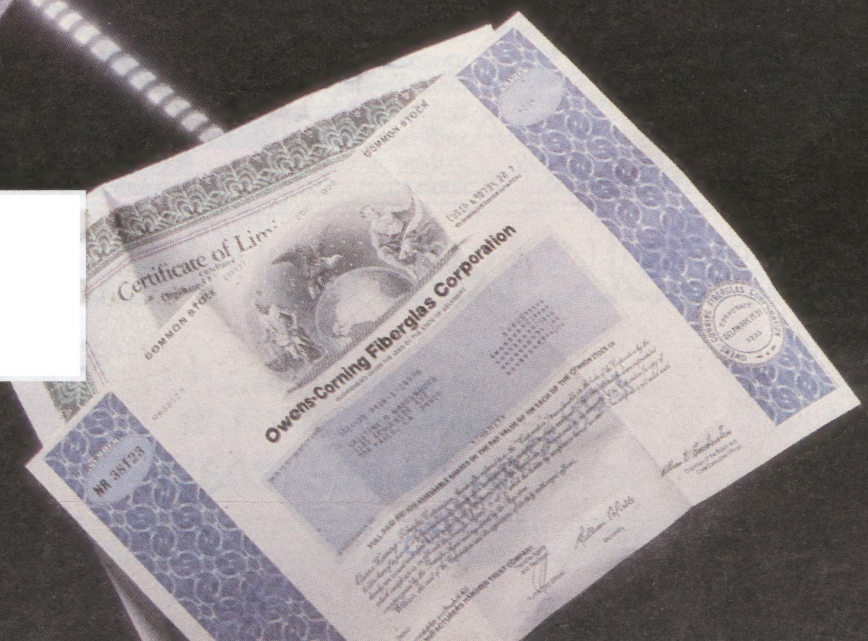
BOSTON'S OWN COMPUTER NEWSMAGAZINE

COMPUTER currents®

Volume 6 Number 7 MONTHLY July 1991

First Look Review: DOS 5





Connecting to The World of **Online Services**

INSIDE

Boston Computer News

New Column: The PC Desktop Publisher

Bargain Windows Resource Kit

Macfocus

"Instant" Multimedia With Quicktime

PhotoShop 2.0 Debuts

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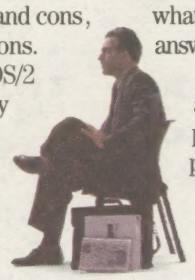

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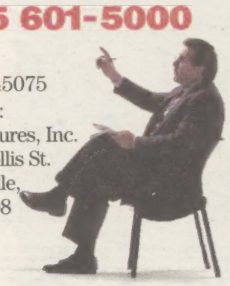

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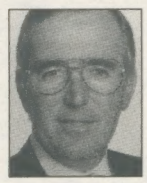
Featured Presentations

Keynote Address
Wednesday, August 14
9:00-10:00 am

Sheldon Laube
National Director, Information & Technology, Price Waterhouse
"Desktop Directions: How New Desktop Technologies Will Further Empower People"

Lotus Technology Briefing
Wednesday, August 14
1:00-2:00 pm



Dr. Frank King
Senior Vice President, Software Business Group
Lotus Development Corp.
"Software Applications for Working Together in the 90s"

OS/2 Strategy Briefing
Thursday, August 15
8:30-10:15 am

Lee Reiswig
Asst. General Manager, Programming, Personal Systems, IBM

Joe Guglielmi
General Manager, Marketing & Business Development, Personal Systems, IBM
"Personal Systems Software Directions"

Developers' Keynote
Friday, August 16
9:00-10:00 am

Paul Brainerd
President, Aldus Corporation
"Secrets to Building Successful Cross-Platform Applications Software"

The Exposition

The Windows & OS/2 Conference boasts an exhibit floor packed with the latest Windows and OS/2 software applications programs and development tools from more than 250 top exhibitors. And, you'll have unlimited access to these special exhibit floor attractions:

- **Live Shoot-Outs,** sponsored by PC Week Labs
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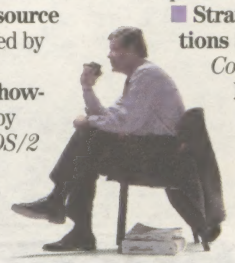
- **MultiMedia Showcase,** presented by *Windows and OS/2 Magazine*
- **Seminars For Programmers,** presented by the Boston Computer Society
- **Strategic Applications Seminars,** by *Computerworld* Magazine
- PC Concepts' **Hands-On Training**
- **Test Drive Center**



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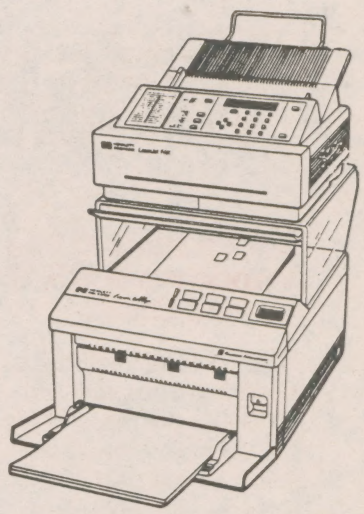

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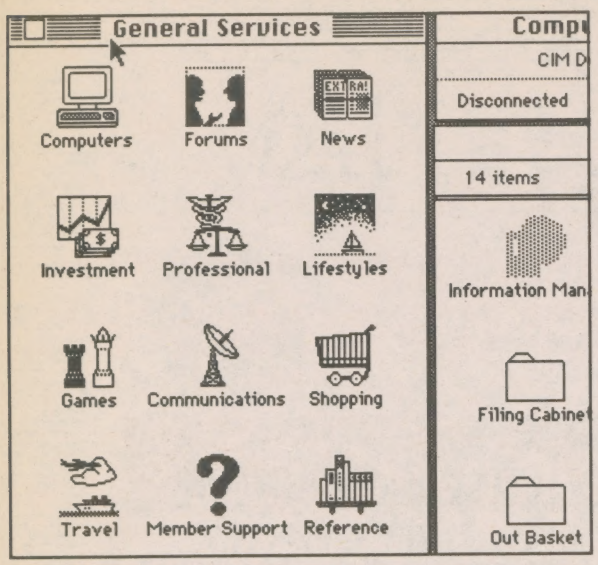

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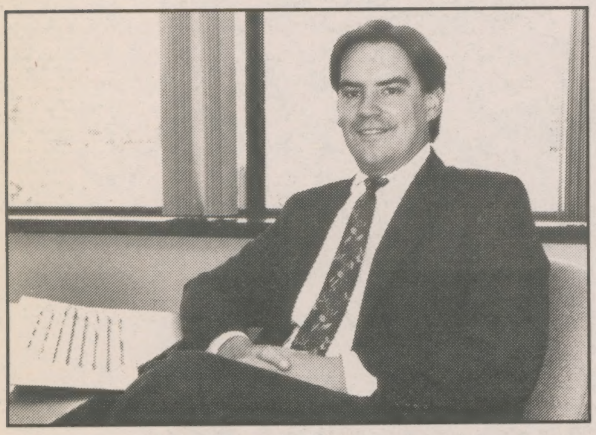
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COMPUTER Currents

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JULY 1991

THE WORLD OF ONLINE INFORMATION 22

From stock prices to electronic-mail to current events forums, online services tap your computer into a varied and useful informational network. In our cover story, Larry Magid examines what each of these service has to offer to help you decide which one is best for you.

By Lawrence J. Magid

MAKING ONLINE SERVICES MORE ACCESSIBLE 10

Online information services are meant to empower people, to make facts and services accessible to millions with the push of a button. And yet, the vast majority of Americans have never logged on to one. Why Not? And what needs to be changed in order for online services to become accessible to more people? Marguerite Zientara finds some answers to these and other questions about how to make these services more useful for everyone.

By Marguerite Zientara

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Publication Date	*Deadline*
AUGUST	JULY 12
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OCTOBER	SEPTEMBER 16

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Easy to learn and use

- Use the toolbar to perform common and complex operations in one step; there's no need to go to the menu or learn commands.
- Click Autosum on the Toolbar to automatically add rows and columns of numbers, format worksheets, create charts, and more.

Powerful analytical tools

- Outline worksheets automatically or manually and click outline buttons to expand or contract any level of detail.
- Intelligent goal seeking finds the best solution to the goal you specify.
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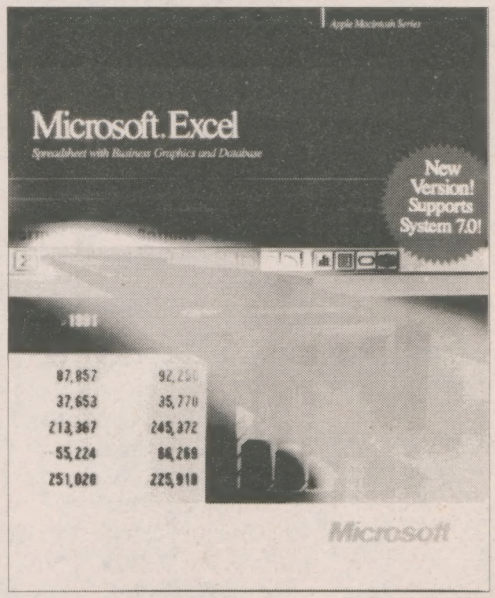

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By Marguerite Zientara

IBM Speaks With Dragon's Tongue

IBM's recently introduced "IBM VoiceType," a large vocabulary speech recognizer, is based on technology invented by Newton, Mass.-based Dragon Systems, Inc. for its DragonDictate family of products. IBM VoiceType was developed jointly by Dragon Systems and IBM.

"Speech is the most efficient and preferred means for people to communicate with each other," says Dragon Systems' president, Dr. Janet Baker, who cites experts' opinions that speech will soon become the preferred human-computer interface. "The introduction of IBM VoiceType represents a significant landmark, both for Dragon Systems and the speech industry in accelerating this process."

In the tradition of Dragon products, IBM VoiceType provides an affordable "hands-free" alternative to using a computer keyboard, which is replaced by a microphone. VoiceType features a 7,000-word active vocabulary, consisting of a 5,000-word "speaker independent" vocabulary and 2,000 slots for user-defined words, as well as an integrated 80,000-word backup dictionary based on the *Random House Unabridged Dictionary*.

Recognizing natural language rather than only preprogrammed sets of words, VoiceType automatically adapts its built-in acoustic and language models to each user's speech and language usage. The more someone uses this system, the higher its accuracy and overall performance are said to be.

Currently in use by hundreds of non-disabled people in the fields of business, computer programming, health care, law, finance and journalism, VoiceType is especially useful to the handicapped. This is in keeping with Dragon Systems' mission to "make globally significant contributions to society" through speech recognition technology. The company, founded in 1982, markets a full range of speech recognizers for the PC.

IBM VoiceType, which runs on the IBM PS/2 platform, is slated for shipment in August at a price of $3,185. It is available directly from Dragon Systems at 320 Nevada Street, Newton, MA 02160. Telephone 617/965-5200.

More Good News

Intex Solutions, Inc. (Needham, Mass.) wants 1-2-3 users to know something. After reported "months of extensive testing," Intex has determined that virtually its entire line of Lotus enhancement products is fully compatible with Lotus' new 1-2-3 for DOS Release 2.3. So, most users who migrate from 1-2-3 can take their Intex enhancement products with them. Compatibility with 1-2-3 for DOS Release 3.1+, scheduled to hit the market this month, is also a high priority at Intex, and the company plans to announce details on that soon.

Chipcom Corp. (Southboro, Mass.) has gone public, with an initial public offering (IPO) in May of 1,550,000 shares of common stock at $12 per share. The net proceeds of the sale of shares by Chipcom are slated for general purposes, including working capital and product development.

The securities are being traded on the NASDAQ National Market System, as "CHPM." Chipcom makes the ONline System Concentrator family of intelligent networking hubs and related modules.

With the sale of its 20,000th remanufactured toner cartridge, **IPS/LaserFax** (Braintree, Mass.) has now recycled more than 38 tons of plastic since the firm began two and a half years ago. Besides helping to solve the plastic waste problem (imagine all the plastic we buried before recycling!), IPS/LaserFax estimates it has saved its clients almost $1,000,000 by charging about half the price of a new cartridge.

Some Far-out Predictions From World Future Society

I love the World Future Society, headquartered in Bethesda, Md. They're always thinking hard, and they follow trends to their truly ultimate conclusions. Here are some of my favorites in high-tech:

- In the 21st century, multi-purpose intelligent robots are likely to replace virtually the entire U.S. work force, and people will receive a salary to enjoy life.
- Microrobots, after being swallowed, may perform surgery from inside a patient's body, guided by a human surgeon "seeing" the patient's internal organs through a combination of computer imaging and 3-D simulation.
- The legal, mind-altering "soma" of the future may not be a drug, but virtual reality. If such technologies become so powerful they warp people's perceptions of the "real world," however, virtual reality might be restricted by law. (Have you seen "Total Recall"?)
- People will be able to design their own homes on a computer terminal, work out the details with their builder, then send the completed design via computer network to an automated factory where the components would be prefabricated. A crew of five workers and a crane would then erect the roof, floor and walls — all in one day.

To find out more about the World Future Society and its publications, call or write the group at 4916 St. Elmo Avenue, Bethesda, MD 20814. Telephone 301/656-8274.

New High Technology MBA Program at Northeastern

"Firms in the high-tech industry have come to realize that technical expertise alone is not sufficient to assure profitability," says Dale Hamel, Program Manager for Northeastern University's High Technology MBA Program. "Technological skills *and* sound managerial expertise are required to survive and prosper in this volatile industry."

Toward that end, the development of managers from technical staff has become a major priority in leading high-tech companies, Hamel says. Northeastern's High Technology MBA Program, initiated in 1982 as the first program of its kind in the U.S., was designed to help individuals develop the skills needed to manage time, resources and people in high-tech, and to help technology companies develop managers.

The program takes a pragmatic approach to business instruction, featuring a case study method that requires students to analyze, evaluate and develop possible solutions to real business problems confronted by high-tech firms.

Initiated in the midst of the high-tech go-go years, Northeastern's High Technology MBA Program is still thriving in spite of the generally dismal news we read in the business pages. In fact, the program is doubling in size beginning this September and will be offering classes in both Dedham and Weston, Mass.

Ages of students typically range from 24 to 45, and High Technology MBA candidates have a minimum of two years of practical work experience in the high-tech world. A large majority of students majored in engineering, science and math as undergraduates, with a significant number holding technical graduate degrees.

Applications to the program are welcomed throughout the year, and are processed on a "rolling admissions" basis, so that decisions are made within about three weeks of receipt of an application.

The final application deadline is July 15 for classes beginning this September. The tuition rate for 1991-92 is $1,134 per course.

For more information, call or write: High Technology MBA Program, Graduate School of Business Administration, 205 Hayden Hall, Northeastern University, 360 Huntington Avenue, Boston, MA 02115. Telephone 617/437-2717.

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Marguerite Zientara is the author of The History of Computing, copyright CW Communications, Inc., 1981; and ***Women, Technology & Power****, Amacom Books, New York, 1987.*

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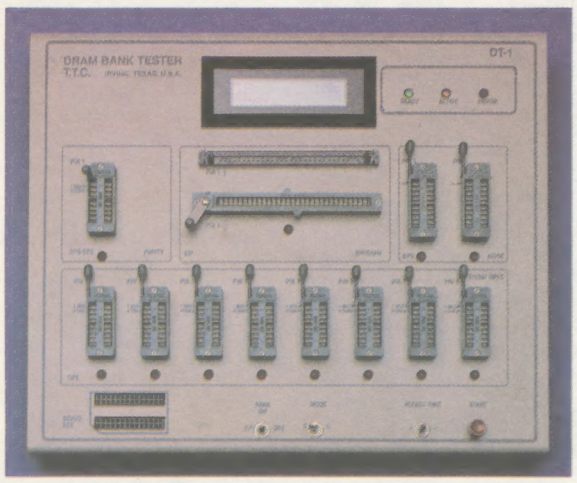

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BOSTON COMPUTER NEWS

Ergo's 8.7-lb. "Moby Brick" 486 Portable

Ergo Computing, Inc. (Peabody, Mass.) has announced what it calls "the world's smallest 486 personal computer." With a core module (CPU, graphics, disk drives) about the size of a ream of copy paper (3.4 x 8 x 11.3 inches), "Moby Brick" is Ergo's successor to the 386SX-based "Brick" portable introduced last summer.

Moby Brick's 8-inch-wide core module fits into just under half of a standard briefcase, leaving room for other work-related materials. The Brick and Moby Brick are unique in that they are designed for users who regularly compute in just two locations. Users can carry the core module between the two sites (home and office, for example), where they have a monitor and keyboard.

The 33MHz 486DX and the 20MHz 486SX models incorporate the VLSI Technology TOPCAT chipset. Standard configurations include 4MB RAM and 120MB hard disk. Moby Brick is compatible with DOS, UNIX and OS/2. Extended VGA and 1MB of video RAM are standard; one parallel and two serial ports are included; a built-in Hayes-compatible 2400-baud modem is standard.

A $395 Docking Terminal lets users connect and disconnect in seconds to and from peripherals, including monitor, keyboard and external power supply. Prices for the 486SX start at $3,995 and for the 486DX at $4,995. Ergo is at One Intercontinental Way, Peabody, MA 01960. Telephone 508/535-7510 or 800/633-1925.

286- to 386SX Upgrade for Under $300

Aox, Inc. (Waltham, Mass.) has unveiled the StaX SX, a 386SX cache-based upgrade module for 286 AT-bus PCs. The StaX SX is available in both PLCC and PGA versions, operating at speeds of 16- and 20MHz, and is priced at $279 and $329, respectively.

Aox's proprietary CCC/SX caching chip, combined with Intel's 386SX CPU, is said to provide up to three times the processing performance of the native 286 machine. StaX SX is said to be compatible with more than a dozen different machines.

A new company division, Aox DIRECT, has been established to manage the marketing of the StaX SX, which will be sold directly to end users. Customers interested in the product can call Aox DIRECT at 800/726-0269. Aox is at 486 Totten Pond Road, Waltham, MA 02154.

Spinnaker Ships Integrated PFS:WindowWorks

Spinnaker Software Corp. (Cambridge, Mass.) is shipping its recently announced PFS:WindowWorks, said to be the first integrated software package for Windows 3.0.

Targeted at the home office/small business professional, PFS:WindowWorks offers a word processor, page layout features, and other tools needed to create documents with built-in charts, tables, and graphics.

PFS:WindowWorks also features a spreadsheet, chart editor, database, communications module, address book and label maker, as well as hotlinking among program modules, so that data changed in one module is automatically changed in another, linked module.

PFS:WindowWorks' minimum requirements are an IBM or compatible 286 or 386; a clockspeed of 16MHz; 1MB of RAM; a hard drive; an EGA, VGA or Hercules graphics card; a Hayes or compatible modem; a mouse; DOS 3.1; and Windows 3.0. PFS:WindowWorks costs $199. With every package comes a free copy of Atech's Publisher's Powerpak, a $79.95 font generation program.

Spinnaker is at 201 Broadway, Cambridge, MA 02139. Telephone 617/494-1200.

Program Switcher Utility Uses Less Than 7K of Memory

Software Interphase, Inc. (Foster, R.I.) has announced a utility program said to let users switch to a program while using another. LiteSwitch reportedly uses less than 7K of memory, or 1.5K if using EMS.

When LiteSwitch switches to another program, it saves the state of the computer to disk or EMS, reportedly allowing full use of the computer's resources for the second program. When the user is finished with the second program, LiteSwitch returns the user to the original program where the user left off.

LiteSwitch typically takes less than one second to make the switch, and reportedly works in all standard text and graphics modes. LiteSwitch costs $59 for the single-user version and $99 for the network version.

Software Interphase is at 82 Cucumber Hill Road, Suite 402, Foster, RI 02825. Telephone 401/397-2340.

SuperScript's Pen-based System Interprets Handwriting and Misspelled Words

SuperScript, Inc. (Cambridge, Mass.) has shipped its ISV-1 display tablet, its first system for pen-based computer applications. The unit includes SuperScript's PenSieve software, said to correctly interpret hard-to-read handwriting and misspelled words.

The ISV-1 is aimed at application developers and users who need a pen-based computer in a fixed location, such as an office, laboratory, loading dock or customer service area. The unit is offered as a low-cost alternative to portable notepads, and is said to be priced at about one third the cost of most battery-powered notepads.

The ISV-1 is a small peripheral that attaches to any desktop IBM or compatible PC using the ISA bus. Using a stylus or pen, users input information by writing directly on the tablet's horizontal screen, by tapping on the screen, by drawing, or by dragging the pen across the screen.

PenSieve is a software interface between handprinting recognition software and query-based applications, such as database retrieval, forms entry, and hypertext browsing. The software is said to be unique in that it provides the user with context-specific options based on the user's program.

The ISV-1 and PenSieve work with the Microsoft Windows for Pen Computing software development kit available from Microsoft. The ISV-1 has a 6-by 8-inch writing area with a 500 dpi resolution digitizer; a 640 x 480 pixel, backlit, 16 gray level LCD screen; a standard PC-compatible serial line for digitizers input; a VGA-compatible interface for display output; and software drivers.

Available immediately, the ISV-1 with PenSieve costs $1,992 from SuperScript, Inc., 36 Bay State Road, Cambridge, MA 02138. Telephone 617/876-0787.

Sumak Announces Three Low-cost Software Packages

Sumak Enterprises, Inc. (Sudbury, Mass.) has introduced three software packages: QuickGraph Plus, a business graphing program ($149.95); QuickGraph Plus for Windows 3.0 ($149.95); and Sift 'n Search, a Windows-based document retrieval product for the PC ($295).

QuickGraph Plus, designed for rapid creation of graphs for business analysis and presentation, provides eleven types of two-dimensional and five types of three-dimensional graphs, plus a variety of composite graphs, for a total of 57. Data and graphs can be hotlinked.

QuickGraph Plus for Windows 3.0 features the same number of graphs as QuickGraph Plus. Data from multiple sources can be hotlinked to a graph, and the sources can be of different file formats. The software supports Dynamic Data Exchange with other Windows programs.

Sift 'n Search is aimed at lawyers, government agencies, magazine and book publishers, and project managers. The software lets users create new textbases which can be organized in bins similar to those in an office metaphor. Sift 'n Search supports the import of documents in most major formats; pictures are imported in Tiff, Bitmap or Metafile formats of Windows.

Sumak is at 39 Dawson Drive, Sudbury, MA 01776. Telephone 508/443- 5970.

Avid Technology's New President

Avid Technology, Inc. (Burlington, Mass.), maker of Media Composers digital video editing systems, has announced the promotion of Curt A. Rawley to the position of president and chief operating officer.

Rawley, 42, is one of the founders of Avid and has held management positions in finance, operations, customer service, and most recently served as vice president of sales and marketing. In the past two years, Rawley has established seven regional direct sales offices in the U.S., as well as indirect distribution in Canada, Europe and the Asia-Pacific markets.

Prior to co-founding Avid, Rawley held management positions at Racal Design Services, Racal Redac, Pixel Computer, Applicon and Digital Equipment Corp. Rawley holds a B.S. in engineering from Duke University and an M.B.A. from Harvard.

Avid is at 3 Burlington Woods, Burlington, MA 01803. Telephone 617-221-6789.

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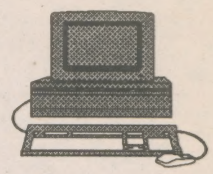

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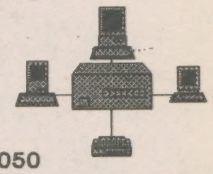

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Making Online Services More Accessible

By Marguerite Zientara

Online information services are meant to empower people, to make facts and services accessible to millions with the push of a button. And yet, the vast majority of Americans have never logged on to an online service.

Those who log on once are frequently discouraged from trying again, for the same reason that many people barely use their expensive VCRs — the technology is just too intimidating.

"It's hard and frightening for most people," says consultant Richard Koch (Sharon, Mass.), a videotex pioneer who has been in the business for 10 years. The former president of now-defunct Boston CitiNet and American CitiNet, Koch has learned through experience what he believes are the fatal flaws of most online systems.

"I challenge a lot of people in the videotex business when I say, 'Look, you think you've got a great thing, but how many of your friends and relatives are saying, "Can you get me a terminal, can you get me a modem?"' Hardly anybody," Koch observes.

Even Prodigy (see cover story, page 22), which is being touted to the general public as "easy to use," really isn't, Koch feels. "When you watch somebody do a demonstration of Prodigy, they'll always say, 'Okay, let me get to the screen, then I'll show you this.'

"Then they go through all the rigmarole of dialing and setting things up and going through all the menus and logging in, and then they say, 'Okay, now watch this.' If you had to do that to watch television, you wouldn't watch television." Although Koch himself once claimed ease-of-use as one of the attractions of Boston CitiNet, he has since changed his tune.

A Short History of Boston CitiNet

In 1984, Koch started Boston CitiNet, which for years was billed as the largest free videotex service in the country, offering users access to hundreds of diverse online "information providers (IPs)," such as real estate listings, advice to the lovelorn, at-home shopping and national magazines.

Koch in the meantime was also giving videotex seminars at the telephone company and in fact "demonstrated to Nynex what a [communications] gateway would be maybe two years before a gateway ever opened up anywhere," he recalls. (The Nynex Region comprises New England Telephone and its sister company New York Telephone.)

Not surprisingly, Koch and Boston CitiNet were perfectly positioned for what came next. In 1987, the Regional Bell Operating Companies (RBOCs) started operating electronic gateways. That year, Koch went national as American CitiNet, with branches in Burlington, Vt., New York City, Philadelphia, Washington D.C. and Omaha, Nebraska. American CitiNet provided IPs for Bell Atlantic (Philadelphia, Washington, D.C.), US West (the Midwest and Pacific Northwest), and Nynex.

"I think a lot of the technology should be put almost behind the scenes rather than dumped on people."

Nynex's offering was the much-ballyhooed "Info-Look" gateway, which began as a pilot program in Vermont in November 1988. The successful pilot debuted in Massachusetts the following year [*Boston Computer Currents*, September 1989]. Boston CitiNet was one of three Info-Look "host providers" in Massachusetts — the other two being General Videotex Corp. (Cambridge, Mass.), operator of Delphi (see cover story, page 22), and Fairfield Computer (Chestnut Hill, Mass.).

Info-Look's Failings

The beauty of Info-Look was supposed to be its versatility and low cost. It was designed to eliminate the need for users to access numerous services, all of which carried their own costs. With Info-Look, many services could be accessed through a common means, there was no subscription fee, and customers were charged only for the time they used the services. All billing was handled by Nynex and charges appeared on customers' monthly phone bills.

In theory, Info-Look sounded wonderful. In reality, there were some rather major problems. Nynex traces its troubles to the 1984 divestiture of AT&T, through which the RBOCs were prevented from providing information services. Info-Look, as a basic electronic directory of information services, had its hands tied when it came to imposing controls.

"The restrictions on us made it difficult for us to operate successfully," explains Mark Wilson, former product manager for Info-Look. "We needed to be able to set standards with service providers, we needed to be able to adjust our billing to offer different types of pricing.

"Because we weren't able to invoke standards on services," Wilson notes, "a user would go into a service and use one set of commands to navigate through it, but then they'd have to use a different set of commands to navigate through the next service, and we had more than 230 services on there. A lot of the users we attracted would go away and not come back because of that."

"Info-Look was just so confusing to use," Richard Koch agrees. "A person coming on would be overwhelmed by the hundreds of services, and a lot were duplicate services. Many of the services didn't make any sense.

"For example," he explains, "you could get American Airlines' EaasySabre [reservations system] on several different parts of the gateway. One IP would charge you 10 cents a minute to get it, and someone else would charge two dollars a minute, but it was the same service."

Koch also questions the value of much of the information that was offered. "The thing most people overlook is, 'What's on that screen that's valuable?'" he points out. "Most of the services on Info-Look weren't valuable. A lot of them were frivolous. We found that a lot of them had value to a small number of people, but there was no mass appeal."

Numerous IPs didn't bother to update the information they presented online. "Even if a customer got into some of the services," Wilson says, "they'd be seeing information that was two or three years old."

CitiNet Takes a Dive; Info-Look Follows

In spite of Info-Look's problems from the start, Boston CitiNet was in the thick of it and committed to succeeding. "We put a lot of money into promoting the gateways and the services on the gateways," Koch says.

CitiNet also made life easy for the information providers, by absorbing their up-front costs. "It was an unknown, unproven type of venture, and most people didn't want to spend anything up front," Koch explains. Instead of charging the IPs several thousand dollars each to start up, CitiNet let them do it for free, offering to split the profits after access charges, phone com-

pany charges and billing fees.

That proved to be an expensive concession. "What happened was we were sending people checks for $3, $2, things like that, when it was costing us hundreds of thousands of dollars to [operate the system]," Koch recalls. "We lost maybe $400,000-$500,000 on supporting the phone company gateways."

Then there was the recession whammy. "Part of CitiNet that stayed independent was advertising-supported, and our main advertising came from real estate, help wanted, and so forth. So the recession hurt us because those were the big markets that got killed in the recession," he said.

By July 1990, it was all over for Boston CitiNet and American CitiNet. "Being a small company supporting that type of thing, if it doesn't work, you go out of business," Koch notes. "We couldn't absorb those kinds of losses."

A behemoth like the telephone company, on the other hand, can make a mistake, close down the operation and move on. Which is exactly what Nynex finally did, on May 10, 1991.

"I think Info-Look was a nice step into the future and I think it's something that's needed," Wilson says. "I'm sorry to see it go. It's a lot of hard work down the drain."

Koch foresees an evolution toward what he calls "humantex," which bears a remarkable resemblance to the way the information world used to run.

How to Do It Right: Some Thoughts

Of course, Info-Look may not be completely dead, and if it is ever resurrected, it will undoubtedly benefit from past mistakes. At press time, in fact, the communications world was anxiously awaiting a federal court ruling on the question of whether the RBOCs can, indeed, enter the information services industry.

Whether or not the phone company tries again, videotex trailblazer Koch, now a consultant to newspapers considering online service options, has some definite ideas of his own about what works and what doesn't work.

"I think a lot of the technology should be put almost behind the scenes rather than dumped on people," suggests Koch, a former Boston school teacher. "Sometimes when you're teaching a class of eighth-grade students, and the lesson is too hard for them, it goes way over their heads and you're not going to get them. I think our lesson plan for most people is way over their heads.

"When we do videotex right now, we give people tons of menus, we give them the parameters to set up their computers — here's the modem setting, here's the parity setting, here are the menus, here's how to log on, here's how to put your user ID in there, here's how to set up other accounts — and once you get into the services, everybody has a different command structure."

It's not that Koch feels condescending toward the general population, but he recently came across some independent research that "hit me like a ton of bricks," he says.

One study of literacy rates in the U.S. found that 97 percent of the people in Oregon are "literate," Koch reports. However, the study found that only 18 percent (figures approximate) could comprehend a bus schedule, only 13 percent could make correct change, and only 40 percent could read a utility bill correctly. "That's frightening," he says. "You can't assume, then, that 97 percent of the people in Oregon could use your videotex service."

Let's Get Back to Voice-Based Systems

Koch foresees an evolution toward what he calls "humantex," which bears a remarkable resemblance to the way the information world used to run. "There are some services now around the country, being run by newspapers, where you actually talk to people to get information. The computer and the videotex element are in the background.

"It may be a strange concept," he concedes, "because we're trying to get away from that and make everything automated. People call on the phone, talk to a person and get information, and that person might even call them back."

There's also more money to be made in these humantex services than in videotex or audiotex, Koch claims. "The economics are there. It's a very interesting concept that can make money and it's a benefit to everybody. The users are happy, the people that provide the information are happy, the people who run the company are happy."

Koch is, in fact, seriously considering trying to start up such an enterprise in the Boston area. In any event, you can be sure he hasn't gotten videotex out of his system. "Yeah," he says, "I'd be willing to do it again."

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Marguerite Zientara is the author of ***The History of Computing****, copyright CW Communications, Inc., 1981; and* ***Women, Technology & Power****, Amacom Books, New York, 1987.*

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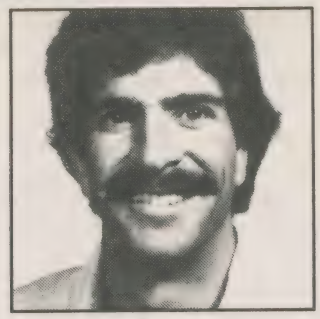
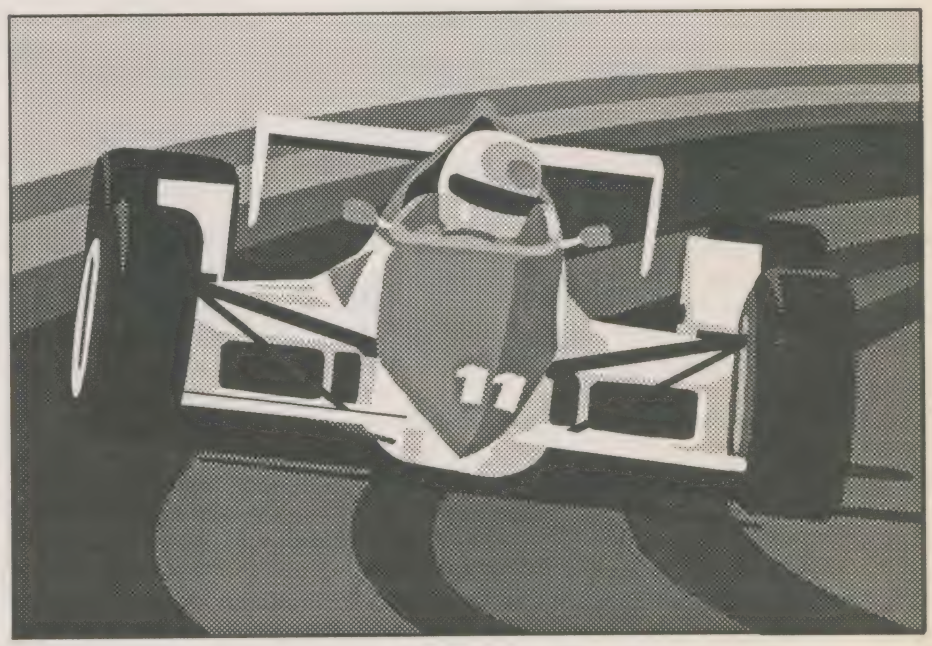


By Rick Altman

How Fast is Fast Enough?

Serious Desktop Publishing Requires Ultra Serious Hardware Muscle



As desktop publishing enters the Windows 3.0 age, many of the rules about hardware and software are being rewritten. Chief among these is the issue of just how much muscle your system needs.

New versions of software are becoming so beefed up that they should be tested for steroids. The executable file that starts PageMaker 4.0 takes 1.3 megabytes of hard disk space. Corel Draw requires 8MB, unless you install the clip art also — then the number rises to over 15. The fact that these new software programs cry out for a 386 machine is accepted by virtually all PC publishers, but many users feel that that edict doesn't go far enough. A standard medium-speed 386 might not be up to the task of driving new Windows 3.0 software. I recently recommended that a friend switch to a 386 machine to run Windows 3.0 and PageMaker 4.0, because her AT wouldn't be fast enough. She bought a 386SX, we loaded everything onto it, and ran the software. Then I sheepishly told her that she might want to get a faster 386, because this one might not be fast enough.

How fast is fast? More importantly, how do you achieve fast? I recently completed an overhaul of my system, in pursuit of determining just how much hardware muscle I needed to run Windows software acceptably, and which particular components have the most impact on performance. My results might surprise you — they surprised me.

My system began as a 386-20MHz, with a 100MB hard drive and 4MB of memory. It ended up as a 386-33MHz, with a 150MB hard drive and 8MB of memory. My display adaptor and monitor didn't change. I had expected that the jump from a 20MHz board to a 33 would be noticeable and dramatic; it was the former, not the latter. I had expected the move to a bigger and faster hard drive to be significant; it was. I had expected the in-

crease in memory from 4 to 8MB to return a slight increase in performance; it didn't — its return was exceptional.

No. 1: Memory, the Key to Happiness

Without a doubt, the most significant component in my upgrade was the move to 8MB of RAM. It was also the cheapest, what with 1-megabyte SIMs dipping well below $50 each. I am convinced that insufficient memory is the leading cause of software crashes and erratic behavior, and among the guilty parties are software developers who understate minimum requirements. Ventura Publisher, for instance, cites 2MB of RAM as the minimum requirement for running the Windows version. Regular users of the product know that to be a joke.

These monsters need elbow room in a big way, and the more you give them the happier they are. Increased speed of a computer is only significant if it translates into a similar increase in your productivity. Barring outright incompetence on your part, or choosing crummy software, the biggest deterrent to productivity is software that crashes and systems that lock up.

Therefore, my advice is the same to everyone, regardless of their software choices or the type of documents they produce: make sure you get a motherboard that can accommodate at least 8MB of RAM and fill it to capacity. There is just no sense in skimping in this very critical area, especially when memory costs are so low as to be almost trivial. Sufficient reserves of memory also make possible the second most important component.

No. 2: A Cache of Memory for Your Hard Drive

How ironic that the second most important component costs between zero and 50 dollars. With 8MB of memory, you can afford to devote a full 1MB to disk caching, the magical operation that substantially reduces disk drive activity. If your system can read data from memory instead of from the comparatively slow magnetic medium of your hard drive, you are in for enormous time savings.

The larger the cache, the more data can be stored in RAM. Desktop publishing applications stand to gain considerably from disk caching, as there are many tasks that require repeated trips to the hard drive to retrieve massive amounts of code. Screen fonts, dialog box overlay files, printer drivers, help files, templates, style sheets — these program parts are continuously being called into action. The larger your cache, the more of their code stays in memory.

Many of today's shell, menu, and swiss-army-knife type programs come bundled with disk cache software, and perhaps the most highly touted cache of all, HyperDisk, is available as shareware. Even if you go with Microsoft's low-end SMARTDRV, you're way ahead of the game. The more you can buffer the activity of your hard drive, the more you reduce the importance of Component No. 3...

No. 3: The Hard Drive

Disk caching notwithstanding, data makes its journey into memory from one source — your hard drive (unless you only work off of floppies, in which case you are beyond help). Disk drive speeds are several orders of magnitude below memory speed, and the best you can do is soften the blow with the fastest hard drive you can afford.

It's practically a given that you're going to need close to 100MB of capacity, maybe more. In addition, you should keep your eye on two other numbers: access time and data transfer rate, the first measured in milliseconds (smaller numbers being better) and the second measured in kilobytes of data per second (larger numbers being better). Access times should be no higher than 20. Investing in a hard drive with access times in the low teens will result in real and noticeable improvements in system performance.

While you can cache 1MB or so of data, Windows and the software running thereunder routinely throw around megabytes of data as if they were juggling balls. The faster the data comes off of the hard drive, the better.

No. 4: The Speed of the Processor

Much to my surprise, the clock speed of the 386 board resulted in the smallest improvement. Don't get me wrong — a 33MHz machine is definitely faster than a similar 16, 20, or 25MHz machine, and the differential cost is small enough to tempt many users who are on the fence about which and how many components to upgrade. But upgrading the motherboard and leaving memory count at 2 or 4MB, or upgrading the board but leaving your 38 ms hard drive in the system is not the right call. A 16MHz 386 with 8MB will routinely outperform a 33MHz 4MB uncached system.

Things have changed since the entre of Windows 3.0. It used to be that adding a turbo board or a replacement motherboard was the best thing you could do. Memory was an afterthought. Today, it is the most precious resource of all, and should be first on your list of upgrade items.

I have little doubt that as I contemplate my next move, I will look seriously at replacing the 1MB SIMs on my board, increasing to 16MB of RAM and dedicating 4MB of RAM to a disk cache. Sounds like overkill? Not anymore.

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*Rick Altman is the author of **Mastering PageMaker 4**, and of **Mastering Corel Draw**.*

He hosts the annual Ventura Publishing conference in San Jose, Calif. each fall. For information about the '91 Conference, to be held Septemeber 28-30, call 408/227-5030

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Interviewed by Marguerite Zientara

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Date Started:	November 1988
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Software: Sell & Support:	IBM Platinum Accounting Software, Solomon, Great Plains.
Sell & Work With Qualified Installers:	ComputerAssociates' ACCPAC; State of the Art's MAS 90; SBT, a customized database accounting system; Micro MRP-MAX manufacturing software; Metatron's Metashop manufacturing software. Platinum-level Novell dealer and OS/2 authorized.
Training:	In-house hands-on training & on-site training. Levels 1, 2 & 3 of Novell certified courses. Platinum, Solomon, & Great Plains training.
Service Policy:	On-site contracts. File server maintenance agreement available (details below).

ASG President Gary Whear proudly displays the IBM National Distribution Divisional Achievement Award for 1990, as one of five IBM remarketers in the U.S. to receive the honor, and the only one in the software category. ASG was also recently named the top national reseller of IBM Platinum accounting software.

Computer Currents: You say you have a "relationship marketing" approach to your business. Exactly what do you mean by that?

Gary Whear, President of Application Systems Group: As a turnkey value-added reseller, we offer a turnkey solution to a client in the area of business applications or financial systems, running on a single or, in most cases, a multi-user environment. It can be anything from a small Mom & Pop shop up to the departmental needs of a Fortune 500 company.

By "relationship marketing," I mean we look to create partnerships with the CPA community, consulting groups, network resellers, service companies, computer stores, and so forth, who bring us in on their networking projects to create the business and financial applications for the client. We consider ourselves to have no competition; we look to partner up with groups that others might perceive to be our competition.

We are willing to provide any one of the pieces of a proposed turnkey if someone else were needing to bring us in for that piece. If they have a preexisting hardware relationship, or hardware platform decision, we're more than willing to work with that particular hardware vendor. That is, we're not trying to do it all for everyone every time. That's enabled us to build a business base in under 3 years.

What's the greatest challenge you face in your business?

I'd have to say the biggest challenge is getting relationships [strategic alliances] to believe that we're really not out for it all ourselves. I'm not being a charity, but we're willing to forfeit a piece of something to further establish not only the relationship but the client's solution. So we'll forfeit the network, although we're capable of doing the whole network, and just do the applications. In the PC community, which really hasn't built a lot of faith, it's tough to have someone believe that that kind of solid relationship will be a mainstay.

Can you tell me something about your file server maintenance agreement?

We care a lot about the critical pieces of the system on the network. Many people don't want to write up a full-fledged service contract, but they do want critical response, repair and loaner backup, large hard drive in file server, power supply coverage. Whatever keeps the system up and running. We'll put the whole network on a contract, but many want just the file server.

You and your partner (Vice President Kevin Cotter) are "Businessland renegades"?

I'm a former Businessland sales manager in Framingham, and general manager of Back Bay, where Kevin was my sales manager. We were pretty much young chargers for the time. We left Businessland in the 1987-88 timeframe, so we were able to learn a lot of the marketplace when Businessland was the creme de la creme.

You and Kevin have been referred to as "the 'Ben and Jerry' of the local PC consulting industry." Why is that?

We're high energy, extremely straightforward, sincere, and very focused on what we offer in our community, in our area. But we're sort of an enigma to many people. We've had a strong sales organization, but our marketing left a lot to be desired. Ben & Jerry were phenomenal marketers, but probably not in their first three years because they were building the business. That's what we've been doing, and now we're trying to pull ourselves out enough to market.

Are you guys experts in accounting?

In accounting systems. We have CPAs and MBAs on staff who are financial consulting experts. They merge their knowledge of the tools and of automation capabilities. My comment is, we take information and automation and apply it. We have 37 incredibly hard-working people here, with a broad mix of sales, technical and business acumen.

What's the biggest challenge you face in your business?

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In your work, with tiny to large companies, have you identified any trends emerging?

We recognize three markets and these are trends that are very consistent. We address all three: 1) The small, growth-oriented businesses, who may be automating for the first time, or maximizing automation for the first time. 2) The "burned before," who have had a system for a while, but it wasn't done right or they didn't even know whether it was done right or not. They're not pleased with their preexisting relationships, which can include a computer store closing, an independent consultant going out of business, mergers, or just outgrowing a current relationship. 3) Corporate downsizing, the minicomputer reshuffle or conversion, or offloading from the mainframe. That's still going on. Or mainframe front-ending, where they put networks in front of the mainframe because it's more open architecture style versus minis. That market is huge.three years you've been in business?

By Nick Anis and Janet Endrijonas

MS-DOS Users Graduate to 5.0

Since MS-DOS was first released in 1981, the number of users has grown to over 62 million, making it the most widely used operating system for PCs and personal computers in general. DOS is also the foundation for MS Windows, which has become the most popular graphical interface for IBM and compatible systems.

Version 5.0, just released by Microsoft, is the most significant upgrade to DOS in history and it's worth the long wait for both novices and advanced users. Learning the ins and outs of DOS 5.0 will be easier for a number of reasons: the manual that comes with the product is remarkably easy to read, understand, and use; there is now some online help within the program; and there will be a flood of books about MS-DOS 5.0.

To help get you started with MS-DOS 5.0, here is a quick overview of some of the more salient features.

Installing MS-DOS 5.0

Installing DOS on your computer is the first step. Fortunately, DOS 5.0 installs more easily than earlier versions and much more easily than DOS 4.0 did. The installation process has many safeguards. While more than one disk has to be inserted (3 or 4 3 1/2-inch 720K or 6 5 1/4-inch 360K floppies; total space required is 2.8 megabytes), there are no "disk swaps" involved. DOSSHELL fires up flawlessly. If you read the manual or simply follow the program's instructions throughout the setup process, you should have no difficulty. Should a problem arise, there is an excellent section on troubleshooting the installation process in the MS-DOS 5 documentation.

Manual Installation

MS-DOS 5.0 can also be installed manually. If you are working with a set of floppies that are already set up, just boot a system disk, run SYS.COM, and transfer the files. Installing manually from Microsoft distribution disks involves a few additional steps because most of the MS-DOS 5.0 files on these disks are in compressed form.

Making the Most of MS-DOS 5.0's Memory Management Capabilities

Earlier versions of MS-DOS have all loaded into conventional or "low" memory when the operating system is booted. Low memory is 0 to 640K, the area in which most applications programs are loaded and run. Until now, 55 to 60K of low memory has been taken up by DOS. While a handful of DOS programs and Windows 3.0 can break the 640K barrier, the fact remains that most DOS applications still have to share the basic 640K with the operating system.

Until MS-DOS 5.0, each successive DOS version has used more memory than its predecessor. Because nearly 45K of the 60K required for DOS 5.0 can be loaded into what is called the "high" memory area (HMA), you can have more net conventional memory available.

Because of code optimization and the elimination of what Microsoft terms "functional redundancies," the MS-DOS kernel is about 5K smaller than the kernel of version 4.01. Those of you who have large capacity hard disks in your system will save an addition 6 to 7K of conventional memory since under MS-DOS 5.0, loading SHARE is no longer necessary for the support of large disks.

Over 30K of the MS-DOS 5.0 kernel can be relocated to the HMA, the first 64K block (less 16 bytes) of extended memory above the 1 megabyte memory level. This is not part of the 384K of memory located between 640K and 1 megabyte RAM. To have an HMA, a PC must have at least 64K of extended memory. The MS-DOS 5.0 SETUP program automatically detects if an HMA is present and adjusts the CONFIG.SYS.

A new version of HIMEM.SYS included in MS-DOS 5.0 supercedes earlier versions including the one in Windows 3.0. Only this version of HIMEM.SYS can load part of itself into the HMA. The MS-DOS 5.0 kernel along with COMMAND.COM, FILES, and BUFFERS can be loaded into the HMA on 286- and 386-class machines that have at least 64K extended memory.

The DOS memory manager for 386-class systems, EMM386.SYS, has also been superceded, and has new capabilities. MS-DOS 5.0's new EMM386.EXE can load device drivers and terminate-

SEE NEXT PAGE

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FROM PREVIOUS PAGE

and-stay-resident (TSR) programs into the upper memory blocks (UMBs), between 640K and 1 megabyte. Third-party memory managers can still be used but some of their options, such as the ability to load files high, will no longer work.

EMM386.EXE is an improvement over the old EMM386.SYS and offers new capabilities while remaining a device driver. It now has the .EXE extension and from the command line can be activated, suspended, or used for controlling Weitek coprocessor support from the command line as shown below:

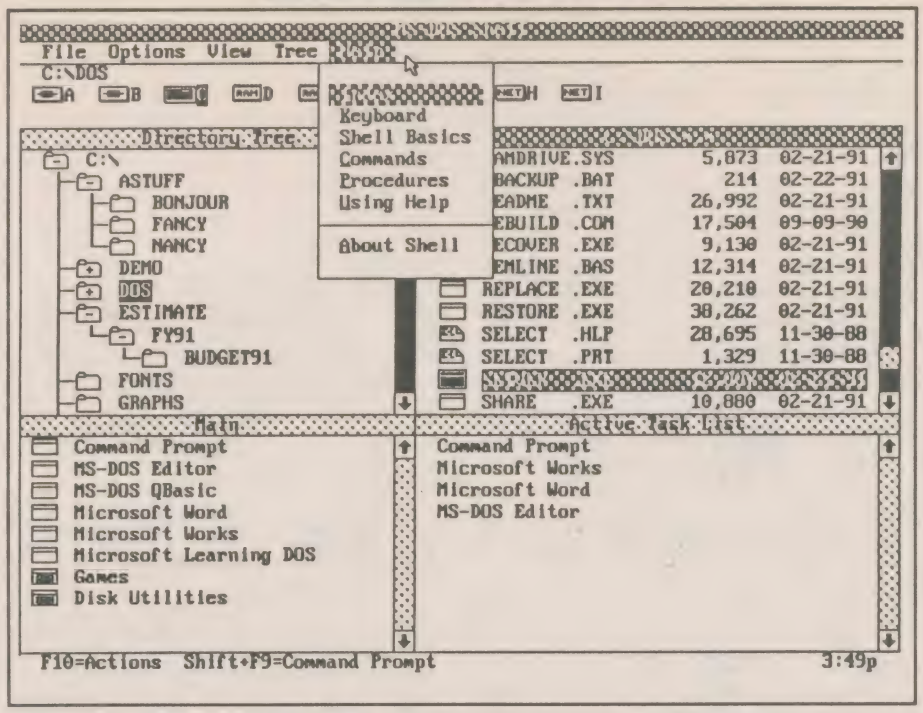
EMM386[ON][OFF][AUTO][W=ON]
[W=OFF][ON][OFF][AUTO]

activates or suspends the EMM386.EXE device driver or places it in the auto mode.

[W=ON][W=OFF]

turns Weitek coprocessor support on or off.

Like QEMM and 386-to-the-Max, MS-DOS 5.0's EMM386.EXE complies with the virtual control program interface (VCIP) standard for expanded memory. This was not the case with the earlier versions of EMM386. This means that MS-DOS 5.0 can now break the 640K memory barrier making significantly more conventional memory available for applications programs. To be more specific, if you use the memory managers in DOS 5.0, HIMEM.SYS (1.2K of conventional memory) and EMM386.EXE (8.2K of conventional memory), you will still wind up with 621K of available conventional memory. By adding a memory manager like QEMM, most of which loads into the HMA, you can end up with as much as 638K of available conventional memory and the advantage that QEMM will load most of itself and programs like SETVER into the UMBs.



DOS 5's "Shell" offers easier access to commands and files.

At this time, MS-DOS 5.0 is the best memory manager to load the DOS kernel, COMMAND.COM, FILES, and BUFFERS into an HMA. Two advantages are immediately apparent. First, it can be used on 286- as well as 386-class systems. Second, with 386-class systems, you will have more room to load TSRs and device drivers into the UMBs. Relocating device drivers can be easily accomplished using MS-DOS 5.0's new CONFIG.SYS DEVICEHIGH= command. TSRs can even be loaded from the DOS command line using the new MS-DOS 5.0 LOADHIGH command.

MS-DOS 5.0's memory management features are more useful when running under Microsoft Windows 3.0 in Enhanced Mode, which can run multiple virtual DOS machines. The 45K or so of conventional memory saved is also passed on to each virtual machine being emulated.

Command Enhancements

A number of command changes that have been needed for years are included in DOS 5.0. In addition to archive and read-only attributes supported in DOS 4 you can now modify hidden and system file attributes using the ATTRIB command. The FORMAT command, with several new options, is safer to use. While it still doesn't pop up in a window and display a disk directory like Norton's safe format utility, it has new options such as /q for quick format and /u for unconditional format. The /s for option has been enhanced; the command will copy COMMAND.COM in addition to the system files.

The SYS.COM command also transfers COMMAND.COM and system files to a target disk formatted by any DOS version provided there is enough space on the disk. Files stored in the starting sector will be relocated, if necessary, which should all but eliminate the "no room for storing files" message. Finally native DOS can relocate files if it needs to, a function that was previously limited to the Norton Utilities.

FDISK can now delete non-DOS partitions, an important function if you are working with multiple operating systems and multiple disks. MS-DOS 5.0 supports disk volumes as high as 2 gigabytes and multiple hard drives. Though MS-DOS 5.0 does partition disks in a slightly different way from earlier DOS versions, its partitions can be recognized by DOS 4.

DIR is perhaps the most frequently used DOS command and MS-DOS 5.0 has added several new options. There is

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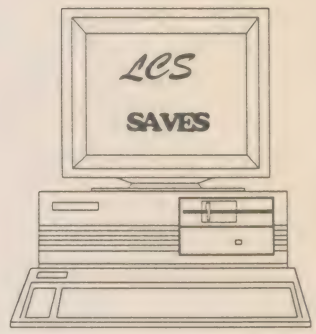

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now a DOS environment variable, DIRCMD, that sets the default for DIR. For example, DIRCMD=/w will set DIR to command to default to a wide directory. In all, there about 25 options for DIR in MS-DOS 5.0. Included are /P to pause after each full screen of information; /A to display files with specified attributes; /O to list files in sorted order; /S to display files in a specified directory and all subdirectories; /B to use bare format (no heading information or summary); and /L to use lowercase characters. DIRCMD defaults can be overridden by prefacing any switch with a hyphen (/-W).

DOSSHELL — New and Improved

MS-DOS 5.0 contains the best DOSSHELL yet. This new DOSSHELL offers point-and-click file manipulation with an intuitive interface.

DOSSHELL has two primary components, the Program Manager and the File Manager. Program Manager is a tool for organizing and launching software applications directly from the shell. File Manager is a menu-driven alternative to using DOS commands for file manipulation. Using DOSSHELL, you can quickly locate files and directories on your drives using either a mouse or the cursor keys.

The new DOSSHELL displays both File Manager and Program Manager onscreen at the same time, a definite improvement over the DOS 4.1 version. In addition, both utilities are modeled after corresponding Windows utilities.

MS-DOS 5.0's DOSSHELL is not perfect. It won't log multiple drives, nor will it let you zip or arc files. While DOSSHELL has the ability to task switch applications, there are drawbacks to the way in which it accomplishes task switching. DOSSHELL defaults to "off." This means you have to re-enable the function each time you start the shell. Also, the swap file is written to the drive and path from which DOSSHELL was started, a drawback since expanded memory has much faster access than a hard disk. You can speed up task swapping by setting up a RAM disk and assigning the DOS variable temp to its path. This, however, can cause a problem because the temp variable is also used by other programs.

Data Recovery — Better Than Ever

MS-DOS 5.0 hasn't changed commands like RECOVER that can ruin files on a hard disk if incorrectly used but there should be fewer disasters to recover thanks to the new DEL, ERASE, and FORMAT command structures.

Microsoft has taken advantage of the technology that has been developed for third-party utilities and data recovery programs. MS-DOS 5.0's new MIRROR command records information about one or more disks by tracking deleted files and saving hard disk partition information. The new UNFORMAT command can restore a disk erased by the FORMAT command or restructured by the RECOVER command using the data saved by the MIRROR command.

UNERASE restores files that have been DELeted or ERASEd using information saved by the MIRROR command.

Online Help Greatly Improved

MS-DOS 5.0 has a rudimentary online help system that offers help for each DOS command at the command line. HELP is accessed by typing "HELP" or adding the /? option after a command. For example, for help in using the DIR command, at a DOS prompt you type either DIR/? or HELP DIR to bring up a help screen. HELP in MS-DOS 5.0 explains the "how" of each command but falls short when it comes to explaining the "why." There is room for development of more extensive online help.

Documentation — A Real Improvement

The manual for MS-DOS 5.0 is a refreshing change coming from Microsoft, a company that has never been lauded for the excellence of its documentation. This manual uses a function approach; it shows users how to perform specific tasks using DOS commands. Included are numerous detailed examples and explanations of DOS commands and capabilities. For the first time, Microsoft discusses and recommends optimization techniques including third-party products. Good as this manual is, it still reads like documentation. You may be among the many who will want to read a third-party book on MS-DOS 5.0 to really feel comfortable.

Is MS-DOS 5.0 Truly Compatible?

During the set up procedure, MS-DOS 5.0 runs SETVER to set the version number that MS-DOS reports to a program. This should eliminate most of those "wrong DOS version" error messages you've seen in the past. Microsoft has learned about compatibility from earlier mistakes and has taken extra care to see that none of them are repeated in DOS 5.0. There have been thousands of beta testers involved in the project and as a result, MS-DOS 5.0 is the most stable DOS version ever created.

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MS-DOS 5.0 — Still Not The Ultimate

It is definitely worth your while to pick up a copy of MS-DOS 5.0 as soon as you can. It is an investment in system functionality and it helps keep your system current with other applications. Not too many applications are being written for older DOS versions such as 2.XX any more.

On the other hand, don't rush to toss out your copies of DESQview, Norton Utilities, and XTREE Gold yet. While many of the features for which DOS users have waited a long time are part of MS-DOS 5.0, it doesn't have everything you need for general system housekeeping, file management, and data recovery.

A major difference you will find in MS-DOS 5.0 is that some functions that used to require third-party utilities are now part of native DOS. You can expect that clever software developers will continue to improve even the current enhanced features. DOS improvement has been an ongoing process for nine years and there is no sign that the process is at an end.

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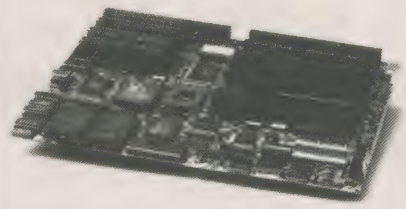

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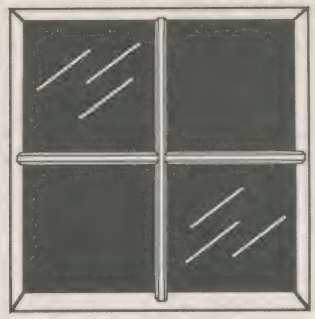

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A Birthday Gift For Windows Users

$14.50 Resource Kit Is A Great Deal

For Windows 3.0's first birthday Microsoft (Redmond, Wash.) is giving us a present, something we can all use to enhance our Windows day. The Windows Resource Kit, which is available only from the company, places a couple hundred pages of information and two disks inside a loose-leaf binder. With this, the Windows on your desktop are bound to be defogged.

The Resource Kit is available for $14.50 as a special offer until the end of July. This package, which includes the Productivity Pack, represents a truly benevolent gesture. Even those who love to cast stones at Microsoft can't find a cynical reason for this package; it is designed to make Windows easy to use for current users. It's neither a sales tool nor an implement of hype, rather it's an unpretentious, unglamorous way to refine the Windows environment that will benefit every user in one way or another.

Microsoft's included the Productivity Pack released last year as a standalone $59.95 (list price) product and sold separately through the reseller channel. This provides training and help beyond what is offered in the standard Windows package, and taking the included tutorial provides a pretty good foundation of Windows basics. One module, Quick Troubleshooter, provides the answers to common problems through the keyword search and button dialog. If the program oversimplifies, it's still a decent diagnostic tool.

Printed Matter

The binder contains sections on setup, configuration, running DOS applications, networks and troubleshooting. It is actually an easier to understand digest and update of the Windows manual, accenting what you need to get started on the right foot. This repetition is actually welcome — sometimes it's necessary to explain things several different ways before you can put it to use.

Also contained is a glossary of common and obscure Windows terms, along with a list of resources: Publishers, user groups, newsletters and books. Finally, there is a disk-by-disk list of all the files on the Windows disk. So if you need to copy a Write.Exe file that has been corrupted, you know to go to disk #2.

The printed part of the Kit is as diverse as the software. The presented information ranges from the fundamental to the technical, presenting a smattering of data of inconsistent breadth and depth. What this gets you — in both cases — is a degree of utility regardless of the level on which you are operating. No matter what you do with regard to Windows, there is something here that will be worth the price of admission.

The utilities included in the Kit range from essential to ridiculous. In the former category is hDC's Memory Viewer, a graphical breakdown of all the RAM used by the system. Windows has its own mem-ory gauge, which you can access through Help/About on the Program Manager, but this only tells you the amount of free memory and system resources. Memory Viewer shows exactly how much RAM each Windows program is using, which is essential information for anyone who wants to make best use out of Windows' memory allocation.

Conveniently, you can access the Memory Viewer from within any Windows application. When the program is installed, the control box in the upper left hand corner becomes an hDC logo. Clicking on the logo calls up the memory chart. For its part, Memory Viewer is an essential, system-level utility. Microsoft would do well to license it from hDC and make it part of Windows Itself, but this is the next best thing.

From category #2, there is "Fish," a screen saver with elements of a paint program. You can fill the screen with any number of fish (as long as it is from 1 to 99) that are of 18 different types.

The fish slide across the screen, each with limited animation. The weird (weirder?) part is that the fish are "editable." You call up the paint program and change the fish visage on a pixel by pixel basis. You can add glasses, or a company logo. Or you can create your own fish. The possibilities are restricted only by the imagination.

Oh, and in case you were wondering: Displaying ten fish takes up about 64K of memory. You wouldn't know that without Memory Viewer.

Icon Draw is also part of the kit, enabling you to create and modify desktop icons. This, like editing fish, is a pixel by pixel process. The ability to create your own icons won't interest every user, some people don't care or notice how they call up an application. It's time consuming to create a decent looking icon, and the rewards are negligible.

On the other hand, if you want to spend the time creating a fancy icon to reflect the contents of a particular file or application, this hour-or-so won't be wasted. It's one way to customize the computer desktop, providing a knick-knack for the digital age.

At the pinnacle of goofiness, there is Fireplace. This program defies categorization or description. I'm not even sure it qualifies as a program. It might qualify as a screen saver, but there is no timing mechanism that starts the program — or the fire — after a period of inactivity. It offers a graphical representation of a fireplace, with a miniaturized "hearth preview" (like the page preview in Word for Windows) as a menu option. Somebody in Redmond likes their humor very dry. More sophmorically, the "save" command calls up a message saying "you can't save fire, it will burn up your disk."

Someone at Microsoft, obviously, was working long and hard and needed to let off some steam. It was considerate of the powers that be to allow that to happen within the context of the workplace, and then provide an outlet for such rampant creativity.

Windows, we now must admit, has more than its share of quirks and oddities and is not always as easy to use as we would like. Anyone who uses it every day knows a lot more about the system than they did six months ago, with much of this knowledge attributable to trial and error. This Kit, however, saves you from some of this pain and allows you to tap into some of the shortcuts that others may have discovered. So learning Windows becomes somewhat less painful.

The Windows Resource Kit with the Productivity Pack will be available for $14.50 until the end of July.

The Windows Resource Kit with the Productivity Pack will be available for $14.50 until the end of July. After that the Productivity Pack will be $49.95. To order, call 800/642-7676 (A $5.50 shipping and handling charge and state sales tax is added to your order).

* * *

The New, Improved, Speedier ToolBook

DayBook, the personal organizer developed with Asymetrix (Bellvue, Wash.) ToolBook, is no longer part of the Windows package. A giveaway until March, DayBook showed users both the best and worst of a Windows program: A slick interface and slow operation.

The speed problem, the biggest obstacle to ToolBook's success, has been eliminated in the current version 1.5. This includes a near-complete rewrite of DayBook, which is also available as a stand-alone upgrade. Now, the modules — to-do, address book and three calendar views — each have a separate icon. There is still no phone-dialer from within the address book, but you can't have everything.

Toolbook 1.5, which includes DayBook, is available for $395, plus $9 shipping (updates for 1.0 users are $75; free for those who purchased 1.0 after April 1, 1991). State sales tax is additional.

The upgraded DayBook is available by itself for $10, plus $5 shipping. State sales tax is additional. Both ToolBook and the standalone DayBook are available by calling Asymetrix customer service at 800/626-3225. You must own a copy of Windows to run the programs.

ToolBook took some knocks for being too slow and too hard to use. But Asymetrix has come a long way in cleaning up their act with this new release, and this generous upgrade shows commitment to the product and their customers.

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Charles Bermant is a freelance writer based in Gladstone, Oreg. He is the author of ***The Windows™ 3.0 Companion,*** *to be published by Dow Jones Irwin.*

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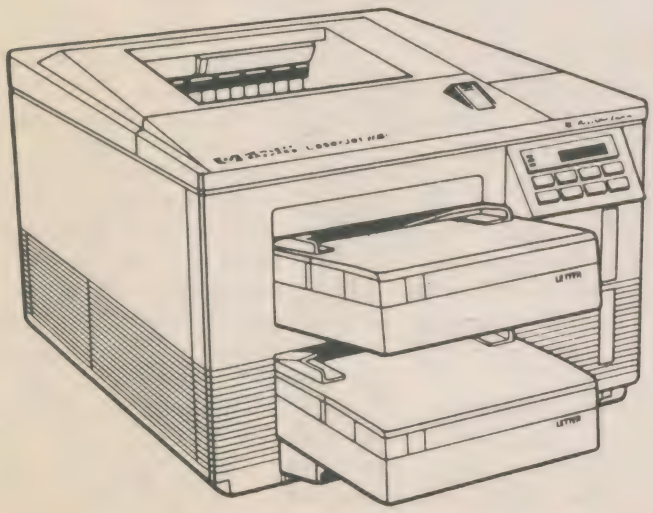

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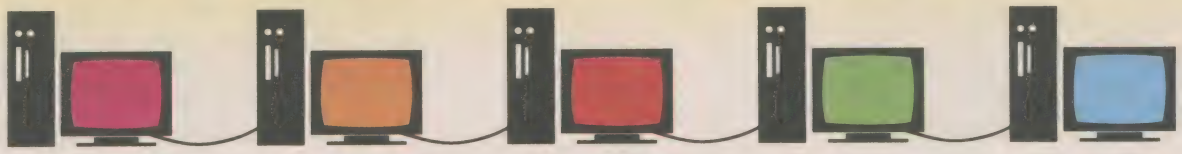

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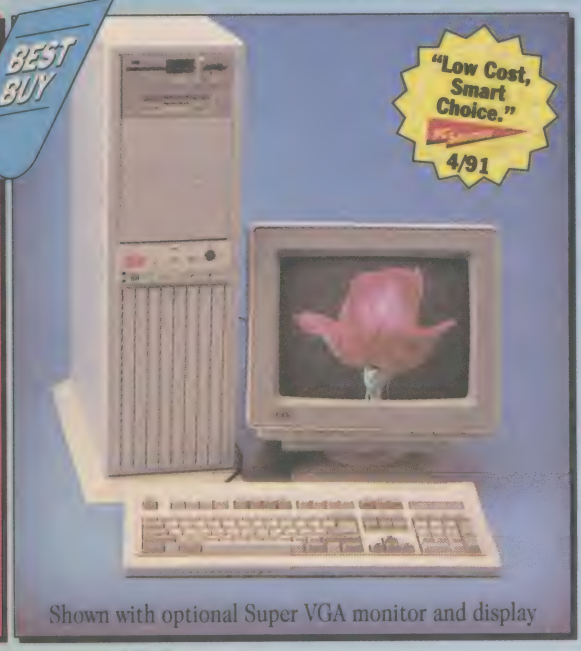

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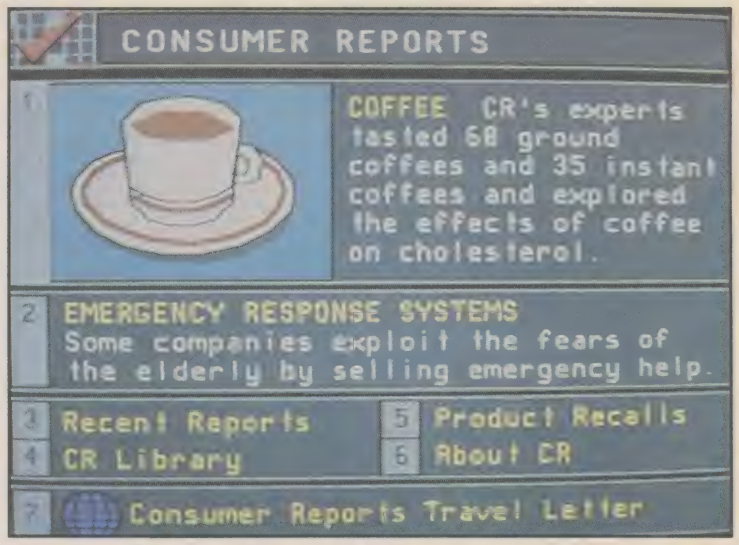
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Prodigy features a low monthly fee, transaction services and specialty areas such as Consumer Reports (shown above).

CompuServe's optional Information Manager software (shown above) makes access to its wide variety of services and forums easier.

GEnie's computing forums provide access to more than 107,000 downloadable files and programs for a variety of computer systems.

Making The Online Connection

By Lawrence J. Magid

Connect a modem to your personal computer and what was once just a computing machine is a window to the world. Exchange messages with business associates or family members. A modem and a subscription to an online service lets you keep up on late-breaking news, find that obscure software program you've always needed, figure out what to do about a family illness or join a live conference. There are thousands of information resources available to you and your computer. And you don't have to leave your home or office. Yes, it can be expensive. But it doesn't have to be. While some online retrieval services charge in excess of $100 per hour, others don't even have a meter and are available for under $5 per month. Besides, if you need information and value your time, even an expensive service might be worth the investment.

Virtually all the services offer electronic mail. With "e-mail," you can send messages to one or more people, knowing it will arrive immediately. It's often easier than making phone calls because you and the other person don't have to coordinate your schedule. You send it on your time and your colleagues read it and respond on their schedule. Because the information arrives in text form, it can be saved to disk for later use. Virtually all computer journalists and most business writers now use some type of e-mail or online system to send their articles. It's not only quick, but it saves the publication the trouble of retyping or scanning the text.

Choosing an online or e-mail service can be daunting. There are several options, each with its pros and cons. Our best advice is to forge ahead. The initial cost of signing up for a service is somewhere between free and reasonable. If it's not right for you, you can bail out easily. Some will refund the initiation fee and first month's usage for those that aren't satisfied.

CompuServe

Describing CompuServe is a little like describing the Pacific Ocean. It's deep, it's wide and there is a lot beneath the surface. It's the oldest of the major online services and, next to Prodigy, the second largest.

Like all online services it offers electronic-mail, bulletin boards, forums and plenty of news services. Its computer and software forums are legendary for the hundreds of thousands of files — software and data — that users can download.

CompuServe also offers a great many reference sources, although many carry hefty surcharges.

Computer Database Plus, for example, provides access to the full text of more than 60 computer magazines, including *PC, PC Week, MacWeek, Computer Graphics World* and *PC Computing*. Article abstracts are available from about 70 publications including *Byte, PC World* and *InfoWorld*. There are summaries of computer-related stories from *The New York Times* and *The Los Angeles Times*.

You can perform a "key word" search or hunt for articles with any occurrence of a word or phrase. It's not cheap. In addition to CompuServe's $12.80 hourly fee, there is a $24-per-hour surcharge to find articles plus

$2.50 for each article or $1 for each abstract you display. After the second month, there is also a $2 monthly fee.

Similar publication libraries are available for health, business and general interest magazines. Other CompuServe reference services include the *Academic American Encyclopedia, Consumer Reports, Magill's Survey of Cinema, Books in Print* and *Health Database Plus* as well as a searchable newspaper library.

Want to find the ideal neighborhood for a vegetarian fast food restaurant? The "Demographics & Government Information" section provides access to census data, buying habits and other details from the national to the neighborhood level. One database provides neighborhood gift reports. Did you know that computer magazines make popular gifts in Redwood City, California or that Berkeley residents favor epicurean magazines? You can get all this and a lot more for only $10 per zip code.

Don't let these expensive services scare you away. There are plenty of interesting and useful services available at the basic hourly rate. CompuServe's Online Today provides daily news briefing about the computer industry. Computer publisher Ziff-Davis maintains forums for readers of *PC Magazine, PC Week* and *Mac Week* with online articles, software libraries and indexes of past issues.

The News/Weather/Sports area provides access to the Associated Press as well as an electronic "clipping" service for stories of interest to you from AP, UPI, *The Washington Post* and other news organizations.

NewsGrid, available on CompuServe and GEnie, allows you to enter a key word to search through the past 24 hours worth of stories from United Press International, PR Newswire, The Business Wire, Agence France Presse (France), Deutsche Presse-Agentur (Germany), Kyodo (Japan), Xinhua (China), TASS (Soviet Union) and more. NewsGrid does not carry a surcharge.

You can also go through back issues of newspapers, but it is expensive. Newspaper Library allows you to search through 42 newspapers, including *The Los Angeles Times, Washington Post, Boston Globe* and *St. Louis Post-Dispatch*. Each successful search costs a minimum of $3 just to display the titles of up to 10 articles. You pay another $3 for each additional 10 article titles plus $3 for each article for which you display full text.

CompuServe's "Demographics & Government Information" section provides access to census data, buying habits and other details from the national to the neighborhood level.

The financial area of the service includes stock market quotes, banking and brokerage services, tax and insurance information, corporate reports, earnings and economic discussion forums. Quotes are displayed about 15 minutes behind the official ticker.

For home office workers, CompuServe features Paul and Sara Edwards' "Working from Home" forum and the U.S. Entrepreneurs' Network, which runs a non-profit clearinghouse for people delving into self-employment.

The Travel and Leisure area provides access to both Eaasy Sabre (American Airlines' info and reservation service) and the Official Airline Guides. Use them for airline, hotel and car rental information and reservations.

CompuServe isn't nearly as "shopping" oriented as Prodigy, but it does have an "electronic mall" where merchants provide information about online product ordering.

CompuServe is the only service to provide a free monthly magazine — not just a newsletter — to each of its subscribers. *CompuServe Magazine* carries news and tips about the service along with software reviews and general interest articles.

CompuServe requires a $39 startup kit. You can also use a communications program on any computer or terminal. Mac and PC users can purchase CompuServe Information Manager which provides menu access and mouse support for many of the service's features.

GEnie

With the slogan "Stay Online Longer for Less," GEnie, a service of General Electric, prides itself as the price/performance leader of the online industry. As if to prove that point (and perhaps steal thunder from Prodigy), the company recently initiated a $4.50-per-month flat fee service, available evenings and weekends. But not everything is available in the basic service. Some features — including the computing forums and software libraries — cost an additional $6 per hour during non-prime (evenings and weekend) hours.

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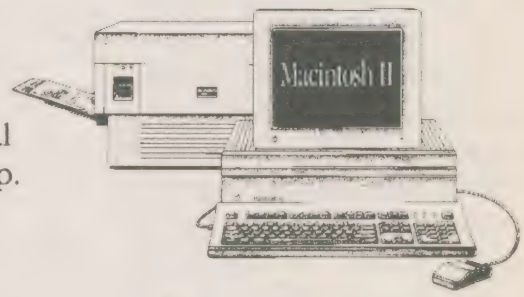

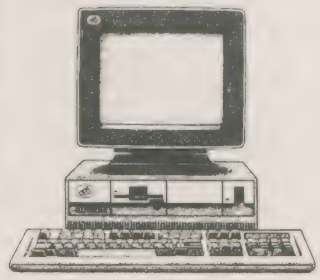

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and forums including genealogy, gardening, travel, automotive, science fiction, medicine, law, small business, investing, music, writing, space and photography. You also get access to American Airline's Eaasy Sabre flight information and reservation service. News features on the basic service include top U.S. stories and international wires.

The computing forums, which cost $6 per hour, provide access to more than 107,000 downloadable files and programs for MS-DOS, Macintosh, Amiga, Atari ST, Apple II, Unix and other operating systems. About 50 percent of GEnie users own IBM compatibles, according to spokesman Neil Harris. Macintosh is the next biggest group with Atari ST and Amiga users represented at about 10 percent each. Several software companies, including Borland, Microsoft and WordPerfect, provide technical support.

GEnie like CompuServe and America Online, provides real-time conferences where you can chat, at the keyboard, with fellow members and occasional luminaries. GEnie's Computer Assisted Learning Center provides tutors and access to college credit for online education.

GEnie's Computer Assisted Learning Center provides tutors and access to college credit for online education.

Computer news comes from Newsbytes — a worldwide network of computer correspondents. General news is available from NewsGrid, the same searchable database that costs twice as much on CompuServe.

People who work at home will appreciate the Home Office/Small Business Round Table where they can share stories or ask questions of other Round Table participants.

GEnie's Executive Desk Register offers a database of all public companies in the U.S. with the name and address of the company and contact information on its CEO and Chief Financial Officer.

GEnie's professional services, which generally incur an additional surcharge, include access to Dow Jones News/Retrieval, online investment and analysis from Charles Schwab and other investment data services.

Dow Jones News/Retrieval, which is also available through MCI Mail or directly from Dow Jones, provides stock quotes 15 minutes behind the ticker, information on securities traded on 90 exchanges and performance statistics on over 1,500 mutual funds.

GEnie's Interactive Games

GEnie is very serious when it comes to fun and games. There are several multiplayer games, including an incredibly graphic air warrior simulator where you engage in dog fights and bombing raids against other online members. Air Warrior comes with its own color graphic software for both PCs and the Mac. You use the mouse to fly your airplane as you attempt to shoot down or avoid enemy aircraft flown by other members. It's about as realistic as computer flight simulators get.

You can also download graphical software to play real-time online card and board games including poker, chess, reversi and backgammon.

Prodigy

Prodigy, a joint venture of IBM and Sears, is the only online service to engage in massive national advertising. The company's long-term goal is to sign up millions of households. Prodigy now has nearly a million members, according to spokesman Brian Eck.

Prodigy, like America Online, comes with its own software for the PC and the Mac and requires the ability to display graphics. The service has its own unique interface, which is virtually identical for both PC and Mac users. It doesn't have pull-down menus, but it's easy to navigate by using the keyboard or the mouse to select on-screen buttons.

Prodigy charges a flat rate of $12.95 per household — a little less if you sign up for a year at a time. For that you get up to six separate IDs and passwords. Prodigy recently launched two premium services — Fantasy Baseball and Strategic Investor. Both have surcharges. All other features are included in the basic fee. You don't have to watch the clock. There is no charge for online time and the service is available from 3 a.m. to midnight, Pacific time.

Prodigy hopes to earn the bulk of its money from advertisers who pay a fee to display ads on the bottom of the screen. Users who are interested in an ad are encouraged to click on an icon to get further information from the vendor, or order the product or services online.

Once logged on, your first stop is the ever-changing "Highlight screen" that displays one or more major news headlines as well as services and products that Prodigy is featuring that day.

Prodigy has its own newsroom where editors — some recruited from major TV networks — compile wire stories into news features that are often illustrated with color maps and other graphics. Some stories are just expanded headlines but, if events warrant, they can be very in-depth. Prodigy, like Cable News Network,

excelled during the Gulf War. Major developments were posted within minutes. On some occasions, Prodigy carried transcripts of important speeches minutes after they concluded.

Prodigy is specifically designed for the home user with features aimed at personal finances, shopping, home banking, entertainment and hobbies. Business services include stock quotes, company and industry news from Dow Jones, economic indicators and market updates. There are articles from a variety of publications including *Home Office Computing* magazine. *Consumer Reports* provides access to its library of product reviews.

Prodigy also provides area news as well as business, sports and weather briefing. Color weather maps — both national and regional — provide graphic detail of incoming storms, fronts and weather patterns.

Prodigy offers several clubs that serve as a gateway to articles and bulletin boards. The bulletin boards allow members to interact with each other. In addition, Prodigy contracts with "experts," who write articles and answer users' questions.

Clubs include arts, computers, food and wine, homelife, money and travel. Experts include the teen advisor "Ask Beth," book reviewer Digby Diehl, travel columnist Peter Greenberg, tax guru Julian Bond, political columnist Robert Novak, sports commentator Dick Schaap, movie critic Gene Siskel and finance writer Brendan Boyd.

Steve Rosenthal and I each write three computer columns a week for Prodigy. Rosenthal focuses on a Mac column while I write about MS-DOS and the computer industry. The editors of *Computer Gaming World* write a very popular gaming column. *Home Office Computing* provides software reviews and *InfoWorld* provides product reviews. PC News — which includes descriptions of recently announced products, is updated several times a week.

The Computer Club bulletin board is used to exchange public messages about hardware, software, utilities, operating systems and other subjects.

Several banks, including Wells Fargo in California, offer online banking with access to bill paying, account balances and funds transfers. There are also investment firms that allow you to use the service to trade commodities.

Prodigy, like the other services, provides access to American Airlines' Eaasy Sabre for airline, hotel and car rental information and reservations.

The startup kit, which is available from many computer dealers, has a retail price of $49.95 and comes with (required) software for either the PC or the Mac. For more information call 800/PRODIGY.

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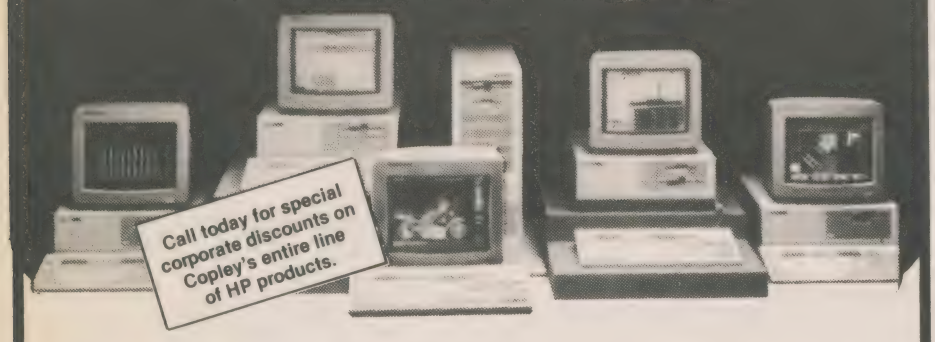

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FROM PREVIOUS PAGE

Online lets you keep your Mac (or GeoWorks on the PC) interface while you're online.

The PC version runs under the Geos operating environment which, like Macintosh and Windows, features icons, folders, pull-down menus and support for a mouse. America Online software is included with GeoWorks Ensemble. A stand-alone version, which includes the Geos interface, is available directly from Quantum Computer Services, America Online's parent company.

The first thing you notice about the service is that you navigate by clicking on icons and opening up folders—just as you would if you were using a Mac or a PC under Windows or GeoWorks. You have access to all of the Mac and Geos graphical resources including copy and paste and the ability to save files. The software runs in the background so you can copy and paste between it and other Macintosh or GeoWorks applications.

The PC version comes with its own text editor that you can use to create messages, or to copy data from any part of the service. It can open any text file, regardless of whether it was created on America Online, and the files it creates can later be edited with any word processing program.

You can even have several windows open at once. You can, for example, be reading a news story while other information is on the screen in other windows. Until recently the service was available only to Mac users. As a result, it's still somewhat dominated by Macintosh users and features but that's starting to change. The service doesn't offer as many features as CompuServe, Prodigy or GEnie, but the range is impressive and growing.

As soon as you're logged on, you click the "Browse the service" icon which takes you to a set of color icons (if you have a color system) that serve as a gateway to the various departments. The Mac version actually "welcomes" you and says "good bye" in a friendly male voice. Departments include News and Features, People Connection, Lifestyles and Interests, Games and Entertainment, Learning and Reference, Travel and Shopping, Computing and Software and "What's New & Online Support."

The news section includes national, world and Washington reports from United Press International, *USA Today* and other sources. A "world news" folder contains additional folders where you'll find specialized stories broken down by countries: Japan, Soviet Union, Europe, Asia, Africa, Middle East, Canada/Latin America and others. News sources include Xinhua (China), Kyodo (Japan), Tass (Soviet Union) and several other overseas services. There is also business news from UPI, PR Newswire and other sources.

America Online isn't the only service to offer business news releases from PR NewsWire and Business Wire, but it's unique in the way it organizes them in folders, broken down by industry. Users interested in computers, for example, would read the stories in the Technology folder. Others might select Commodities, Consumer Products, Construction, Entertainment/Media, Financial, Food, Health or one of the other areas.

America Online's Computer Connections

The Computer and Software area includes software libraries, a dictionary of computer terms, support areas from a variety of companies and various articles. There are software reviews, articles from various columnists and a database with descriptions of 14,000 computer software programs, broken down by Macintosh and DOS. *San Francisco Examiner* "Inside Silicon Valley" columnist Denise Caruso hosts the "Inside Technology" bulletin board with industry news and gossip.

The available information depends, in part, on what machine you're using to log on with. Mac users, for example, get an icon that takes them into an electronic version of *Macworld* magazine. DOS users have quick access to GeoWorks support area.

Forums are run by a variety of software companies including Broderbund, Electronic Arts, GeoWorks, Sierra On-Line, Peter Norton Computing, The Voyager Company, and others.

Microsoft sponsors the Microsoft Small Business Connection which hosts a message board as well as news and tips for people who work in small businesses. The Center also offers libraries where you can download shareware software packages, spreadsheet templates and articles pertaining to running a small business. Although the forum is sponsored by Microsoft, its members are free to exchange information questions about software from other companies.

The People Connection offers online chatting, just like CompuServe's CB or GEnie's chat area. You type your messages into a one-line box and then press the send key. The message is then posted while you read what others have to say. The chat area is divided into "rooms" for special interests that include Trivia, Crosswords, America Online help, and several other interest areas.

Users can create rooms at any time, though there's no guarantee that anyone will join in. I noticed that 15 members were logged into the "naked and waiting" room one night, but, as graphical as the service is, I had no way to verify their actual state of dress.

The Lifestyle and Interests section has folders for various interests such as the astronomy, aviation, baby boomers, business strategies, comedy, disabilities, cooking, environment, science fiction and fantasy, military and vets club, and a lot more.

There are several games including a "play by mail" arena and "RabbitJack's Casino" and other games that can be played while online.

Other areas include online tutoring by professional teachers, live forums with notable personalities both in and out of the computer industry, online shopping and travel airline information from Eaasy Sabre and confidential advice on human sexuality.

You can look up stock quotes and order commodities. There are support forums run by a variety of software companies including Broderbund, Electronic Arts, GEOS, Sierra On-Line, Microsoft and others. There is a classified ad message board for personals, electronic equipment and general merchandise. The service recently added Compton's Encyclopaedia.

The MS-DOS version of America Online is included with GeoWorks Ensemble, but you can get a free startup kit directly from Quantum.

Knowledge Index

Knowledge Index, a service of Dialog Information Service, has a wealth of information in the areas of business, health, computers, science and technology, social sciences and education. Business resources include Canadian Business and Current Affairs, ICC British Company Directory, Standard & Poor's (S&P) News, S&P Corporate Descriptions and S&P Biographical and Corporate Registers. It also offers searchable full text from several leading newspapers, including *The Los Angeles Times, San Francisco Chronicle, Washington Post, Boston Globe, Philadelphia Inquirer* and *Chicago Tribune*.

The Well

Just about all online services offer some type of conferencing, but the Well turns it into an art form. It's the ideal place for spirited debate, especially for what one Well spokesman calls "hacker issues" including privacy and free speech as they relate to electronic media.

The service is divided into conference areas, each with its own host who has a fairly broad amount of latitude. Individualism and freedom of expression are strongly encouraged.

The service costs $10 per month plus $2 per hour at any time. This rate requires that you call the service's host in Sausalito, Calif. Local access, via the CompuServe network, costs $4 an hour extra. New members get their first five hours of online time for free.

To sign on, use your modem to dial 415/332-6106 for 1200 baud, or 415/332-7398 for 2400 baud. Or for more information, call the Well's voice line at 415/332-4335.

Delphi

The online service from General Video Text of Cambridge, Mass. offers a variety of clubs and forums as well as real-time conferences, uploading and downloading of files, entertainment, multiplayer games, education and reference services. You can even participate in the writing of an ongoing "collaborative novel." Delphi allows you to exchange electronic-mail with other subscribers or use the service to send faxes and have documents translated. Like other online services Delphi offers UPI news, weather, sports and financial information.

The service has subscribers in more than 40 countries.

Delphi is host to the usual array of business and computer forums but it also has SeniorNet, an environment group, a handicapped forum, a photo forum and other special interest groups.

It's available 24 hours a day and is reasonably priced. Heavy users can use the "20/20 Advantage Plan" which costs $20 for the first 20 hours a month plus $1.20 for each additional hour. There are no additional charges during evenings and weekends but there is a $9 per hour Tymnet access charge during the business day to access the system via a local phone call.

Byte Information Exchange

BIX, or Byte Information Exchange, is an online spinoff of *Byte* magazine. Like the magazine, BIX offers the computer professional and enthusiast a wide variety of subject matter from discussions of programming tools, to computer news to vendor-run technical support conferences, to an interactive (i.e. you can post messages and get a response) version of author Jerry Pournelle's "Chaos Manor" column. There are also many general interest type conferences, electronic-mail, and public domain software.

AT&T and MCI Offer Electronic-Mail

All the online services offer electronic mail, but AT&T and MCI offer services specially designed for e-mail. AT&T is very popular among corporate subscribers. MCI is the leading dedicated e-mail service for small businesses and individuals.

You don't pay for online time, only when you send messages. MCI also offers a "Preferred Pricing Option" for $10/month, which allows 40 free messages per month. If a message is over 7,500 characters, each additional 7,500 characters (or portion thereof) is counted as a message. Additional messages are billed at the regular rates. The $35 annual fee is waived after the first year under this option.

AT&T charges $30 per year for a mailbox plus 45 cents for up to 450 characters and 80 cents for messages up to 7,500 characters.

Both services also allow you to send text-only faxes. MCI Mail charges 50 cents for the first half page plus 30 cents for each additional half page (within the U.S.) AT&T will send your domestic faxes for 55 cents for the first half page plus 40 cents for each subsequent half page. Overseas rates are higher.

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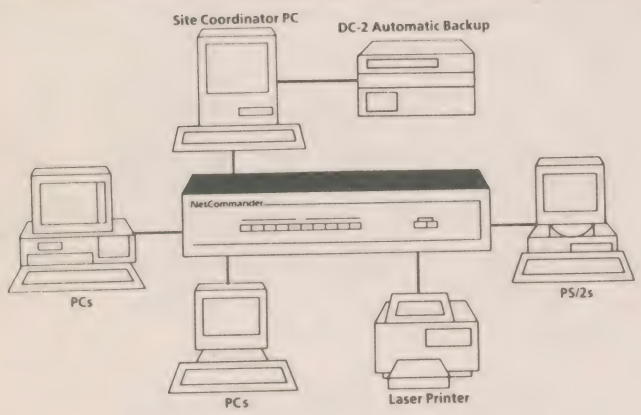

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By Christine Strehlo

Impressions of a Troubleshooting Dilemma

In the last Practical Networking column in the June issue, we examined the situation of Robert Glenn, who was coping with a difficult network problem. Users on his ten-workstation Novell NetWare LAN couldn't print their large graphics files, generated in Microsoft Excel, PowerPoint and Word, to a NEC 890 PostScript printer on the LAN.

Glenn had previously used LANspool, a print service utility that requires a workstation to work as a print server. While that configuration allowed users to print without problems, the person who shared the workstation with the print services was less productive because his work would slow whenever the workstation devoted its CPU to printing. Glenn didn't want to devote workstation hardware to a passive service like printing, and he replaced the print server with a product from Intel Corp. (Santa Clara, Calif.) called NetPort.

NetPort seemed like an ideal solution. It's a box about the size of a paperback book that contains the logic for a network interface, and some processing power. It plugs into the network and the printer plugs into the NetPort. Users send print jobs to the NetWare print queues as usual, and the print jobs are redirected to the NetPort, which forwards them to the printer.

At the time we first discussed the NetPort, Glenn was convinced that it wasn't contributing to the problem that later developed: when a user sent a graphics-oriented print job, the printer would print part of it, and then stop. Some files never got printed at all. He suspected a problem with Windows, and some manufacturer's technical support people had done some preliminary investigation for timeout problems, without success.

Now that Glenn has had some time to think, he no longer suspects Windows as the sole culprit. After all, he's using the appropriate Windows drivers for the printer he's using, and he's actually using DOS and NetWare's print services — not Windows' — to send print files across the network. In fact, Glenn realizes that the source of the problem could lie anywhere in the network: the application, the workstation operating system, the network operating system, the network interface card, the cable, the network server, the print queues, the NetPort, or the printer, to name just a few.

Because printing problems can severely tax a user's patience, it's probably time for Glenn to straighten this one out. Several local integrators had much to say along these lines, and some were even able to offer specific advice regarding configuration changes that Glenn could do himself. Technical support personnel were equally specific in their recommendations, but only where their company's product was concerned.

Thinking about Robert Glenn's network troubles brings haystacks to mind. Two reasons: troubleshooting LANs is not unlike searching for the proverbial needle, but I'm also reminded of some paintings by Monet, a suite of them, all of the same hayfield, but painted during different times of the day when the light was dramatically different. Monet painted the same haystacks, but each painting is very, very different, much like the opinions of the network integrators I talked to in an effort to help Robert Glenn.

Network integrators and LAN consultants make their living looking for those needles, and while many LANs look the same to the casual observer, each consultant may have a different impression of what's really going on. So like those haystacks, the picture looked completely different from each source's point of view, depending on the integrator's specialty. The point is that a specific symptom of trouble on a LAN may indicate a non-specific problem that can be approached in many different ways.

Incompatibilities

For example, Steve Hammersly, president of Hammersly Technology

Partners in San Francisco, was overwhelmed by the number of possible causes. "If Mr. Glenn called me to help him out," Hammersly says, "my first observation might be one he doesn't want to hear — that hiring someone to troubleshoot his LAN might not be justifiable.

"The number of components that could be causing the problem could be one of a half-dozen things," he stresses. "If we troubleshooted this thing with all our diagnostic instruments, we'd probably find that there is a conflict between two of the elements."

Once you've identified a problem like that, how do you fix it? Well, you don't. The manufacturer does. "Perhaps Novell or NEC is working on something to fix an incompatibility," says Hammersly. "It may be that a couple of vendors need to work on it in order to solve it completely. It's a fact of life. His chances of somebody coming up with a solution as simple as 'reconfigure' or 'add this to config.sys' are slim."

Also, some BIOS versions in file servers present incompatibilities, according to technician Sue Conner of PC Edge, in San Jose, California. "We worked on an AST 386 server that wouldn't print large files to a QMS printer," Conner says. "We were able to print the entire files when we lowered the clock speed on the server."

Time Out

Several sources pointed to NetWare's own printing services as a probable contributor. Specifically, NetWare uses a Capture command to redirect print output from the workstation's local printing port to a network print queue located on the NetWare file server. The command can be typed in at the command line, or enacted automatically from a batch file. Several options can be used with the capture command, and the way Glenn is using these options can affect his users' ability to print effectively.

For example, the Capture timeout option enables NetWare to print a job generated from an application that is still running at the workstation — without this option, NetWare will wait until the user exits the application before sending the job to the printer.

Novell recommends that a five-second timeout length is adequate for most applications, but for graphics programs like the ones Glenn is using, a longer timeout — perhaps 20 seconds — is recommended. Glenn has his timeout option set for 200 seconds, and had tried 300 seconds, with no improvement in the situation.

Another option, No Tabs, pertains to printing graphics files as well. When we talked, Glenn had not applied this option to his Capture statements, and was hoping for some progress on that front.

Other elements can cause timeout problems, however. Technician Sue Conner of PC Edge cited the fact that the printer has a timeout option that can be set to "infinite" to ensure that it receives large files intact. (Glenn confirmed that the timeout on his printer has been set properly).

Don't Forget the Simple Things

Conner always recommends starting with the simple stuff, such as confirming that the printer is still working — perhaps it developed an intermittent failure between the time it was connected to the XT-based print server and the time Glenn connected it to NetPort.

To absolutely confirm that the printer's basic operation is okay, Glenn can connect the NEC 890 directly to a stand-alone computer and print from there.

Finally, if everything comes up okay, check the power, says Conner. Laser printers are a large power draw, and the circuit it is using may be overloading, or the power itself could be dirty. Both of these conditions could result in intermittent printing failures, as well as consistent ones.

How to Troubleshoot?

Hammersly focused hard on the fact that Glenn once had a configuration that worked — the print utility and XT print server — and feels strongly that the solution would be to return to that configuration. Hammersly recommends that Glenn implement that configuration again, and monitor the progress of print jobs using NetWare's Pconsole utility to determine whether they are failing before they get to the printer.

Conner agreed that any investigation that would indicate whether print jobs were getting to the server from the workstation, and to the printer from the server's print queues, would pinpoint a cause that Glenn could then try to correct.

But after reviewing Glenn's situation, Conner ultimately recommends that it's time for Glenn to call a consultant. A NetWare Platinum dealer in the San Francisco Bay Area could probably help him with issues related to both Windows and NetWare, she says, and can help him set up a troubleshooting regimen that addresses the NetWare end of it, as well as the application end.

"I've seen a lot of my customers flounder for a long time before they call us," says Conner. The issues they debate during this delay, she says, come down to the simple matter of time versus cash outlay: it seems that trying to deal with the problem using one's own available resources is less costly that hiring a consultant or integrator to troubleshoot. "In the end, they pay," Conner adds ominously.

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*Formerly the senior editor at LAN **Technology** magazine, Christine Strehlo is a freelance writer and editor based in Palo Alto, Calif. She can be reached on CompuServe at 72030,2656 or MCI at cstrehlo.*

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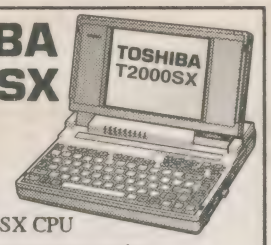

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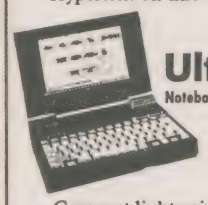

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The BoCoEx Index of Used Computer Prices

The news of the week was DOS 5. Microsoft shot off no fireworks at their introduction of the latest incarnation of DOS, but the fireworks were all in DOS. DOS 5 is a smash hit! It seems as though Microsoft has heard all the complaints, suggestions and pleas for help and rolled all the answers into DOS 5. The wizards of Microsoft have made available to every computer user the kind of operating environment that we all wanted back in the DOS 3 era and didn't get in DOS 4.

DOS 5 is a major boost to the computer industry's secondary market. It will breathe new life into the sagging power of the AT era of computers. DOS 5's upgrade package will reach all the way back to machines running DOS 2 and give them the latest level of power. It is a major rejuvenator of older computers. Go out and buy DOS 5 right now and install it.

Trade-In — IBM sets off an Avalanche

IBM's announcement of their PS/2 Trade-in program set off a flurry of activity. The idea of Big Blue formalizing the displacement of its own hardware was long overdue. IBM lost market share to clones and they countered by putting good used IBM hardware back on the street. It remains to be seen how much of IBM's trade-in hardware will be available and how much disappears off-shore.

IBM Spurs other Trade-In Activity

IBM taking trade-in has set off a maelstrom of activity with large dealer channels, retailers, and manufacturers scrambling to use it, match it or lose out. In the last months of the tenth year of the original PC, the market has finally realized that computer owners have to sell before they can buy. BCE's generic trade-in program has been overloaded with new activity from others trying to emulate IBM.

The uncertainty of IBM's new models and the trade-in program was actually supportive of the market this week. IBM product was mostly stable at last weeks prices. The volume leader was the AT-339 model trading at a stable $750. The PS/2 Model 70P was up $400 at $3,400 showing renewed interest in that model.

Compaq hardware was mostly stable at last week's prices. The LTE's show diminished interest as the wide range of new little laptops elbow their way into the market.

* * *

BoCoEx Index prices are based on complete systems with keyboard, monochrome monitor and adapter, less the value of any software or peripherals. Call BCE: 617/542-4414, Buyer's Hot Line: 800/262-6399, FAX: 617/542-8849. BoCoEx is on CompuServe: GO BCE, on Delphi: ME BO.

The following prices are for the week ending June 14, 1991.

Machine	($) Closing Price	($) Ask	($) Bid
IBM AT 239 20MB	625	725	600
IBM AT 339 30MB	750	1000	700
IBM PS/2 Model 50 20MB	1100	1450	1000
IBM PS/2 Model 50Z 30MB	1200	1500	1200
IBM PS/2 Model 55SX 60MB	1600	2200	1400
Compaq Portable III 20MB	1200	1250	1100
Compaq Portable 286 20MB	1100	1350	1000
Compaq SLT-286 40MB	1700 (-200)	1900	1550
Compaq LTE-286 20MB	1600	1900	1400
Compaq LTE-286 40MB	1750	1900	1600
Compaq Deskpro 20MB	400	450	350
Compaq Deskpro 286 40MB	800	1000	700
Compaq Deskpro 386/16 60MB	1900	2100	1800
NEC PowerMate SX + 40MB	1200 (- 100)	1350	1100
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Zenith SuperSport-286 20MB	1000	1200	900
Zenith TurboSport-386 40MB	1700	1900	1600
Macintosh Plus 20MB	750	975	700
Macintosh SE 20MB	1000	1050	900
Macintosh SE 40MB	1100 (-25)	1250	1050
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Macintosh SE-30 80MB	2350	2500	2100
Macintosh IIX 80MB	3550	3600	3500
Macintosh IICX 80MB	3300	3600	3200
Macintosh Portable 40MB	2450	3400	2300
Apple Imagewriter II	225	350	200
Apple Laserwriter 2NT	2000	2500	2000
HP Laserjet II	800	950	800
Toshiba T-1600 40MB	1500	1600	1400
Toshiba T-3100 10MB	800	1000	700
Toshiba T-3100 20MB	1100	1300	900

Macfocus

News, Reviews, and Features for Macintosh Users

System Software	1) Movie Toolbox: creation, editing, & playback of movies 2) Image Compression Manager: shields applications from compression algorithm details 3) Component Manager: shields applications from external device details (e.g. digitizer cards)
File Formats	1) Movie: new file format for dynamic data 2) PICT Extensions: compression and preview support
Apple Compressors	1) Photo Compressor 2) Animation Compressor 3) Video Compressor
Human Interface	1) Standard Movie Controller 2) Extended Standard File Dialog Box with Preview 3) Guidelines for compression, capture, and more.

Quicktime at a glance.

Quicktime — A Multimedia Extension For System 7

By Linda Rohrbough

In a flurry of excitement, Apple Computer (Cupertino, Calif.) has announced Quicktime, a multimedia extension to the new System 7 operating system for the Macintosh at the Digital World Conference at the Beverly Hills Hilton. The Quicktime release will be made available to developers and customers by the end of 1991, Apple said.

One of the most revealing demonstrations of the new capabilities of Quicktime was at the WordPerfect booth, where WordPerfect had created a document about a new film called "Only the Lonely" that contained what at first appeared to be color photos of scenes from the movie within columns of text.

But when the demonstrator clicked on one of the color photos, the image came to life in full action and sound video and displayed nearly three minutes of scenes from the movie. What was even more impressive was that the video in the WordPerfect document could be moved to another

SEE NEXT PAGE

U P D A T E

Adobe PhotoShop 2.0 Debuts

Adobe Systems (Mountain View, Calif.) has announced a new release of its PhotoShop image processing software, PhotoShop 2.0.

PhotoShop is used to manipulate scanned or computer-generated images on Apple Macintosh computers. Adobe claims that the new release of the software includes new and enhanced features for black-and-white image editing, pre-press color separation work, editing of selected areas of images, and the importing of Adobe Illustrator-compatible files. The new features in Release 2.0 emphasize enhanced pre-press capabilities with direct editing, device matching for separations, and editing of duotones, tritones and quadtones.

Other new features include the ability to import Adobe Illustrator-compatible Encapsulated PostScript (EPS) files, a new Bezier selection tool for defining portions of images for editing or placement, color dithering and special effects filters.

The new version of PhotoShop is expected to be available from Adobe Authorized Dealers in June 1991, the company said. Adobe says registered users can upgrade for $149 until August 31. After August 31, all registered users can upgrade for $199. Any registered user who has purchased PhotoShop between April 1991 until the product ships will receive a free upgrade, the company said.

— Linda Rohrbough, Newsbytes

GCC Intros PostScript Printer for $1,599

GCC Technologies (Waltham, Mass.), famous for its line of printers for the Apple Macintosh, may have the least expensive Macintosh PostScript laser printer on the market. It's called the BLP Elite, and is said to be rock-bottom priced thanks to the use of custom designed circuitry to create a the most compact PostScript controller on the market.

GCC has designed the BLP Elite for optimum performance. Because of the high-speed micro-processor used in the printer, a 16.67MHz 68000, the BLP Elite produces output as fast as printers costing thousands of dollars more. The BLP Elite comes standard with 17 PostScript fonts, two megabytes of RAM, and built-in AppleTalk for sharing over a network. The BLP Elite also features a user-friendly control panel for configuring the printer and monitoring its status, as well as a user-adjustable "sleep mode" that silences the printer when not in use.

The printer processes 40 percent faster than the Apple Personal LaserWriter NT, the company says, yet costs $1,000 less. The controller board is less than half the size of the Personal LaserWriter NT's and has one-third the number of components, the firm says.

The printer engine, made by Oki, processes four pages per minute and features a "patented toner recycling system" which automatically recycles unused toner. There is also a new edge-to-edge printing option — something useful for designers, engineers, and other professionals needing to print spreadsheets and flow charts.

The software bundled with the printer includes an envelope printing desk accessory, QuickEnvelope.

"We're proud of the technology efforts made with PostScript printers by GCC Technologies. Technological advances like the controller design of GCC's BLP Elite bring Adobe PostScript printers to a new level of affordability," explained Dr. Charles Geschke, president and COO for Adobe Systems.

In addition to the BLP Elite, GCC has announced a $799 PostScript language upgrade for its PLP II QuickDraw laser printer. For more information, contact GCC at 800/422-7777.

— Wendy Woods, Newsbytes

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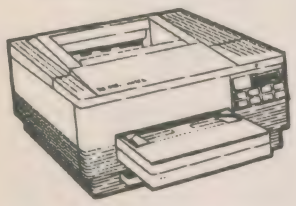

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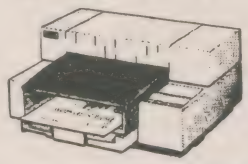

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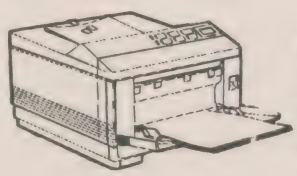

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Macintosh with System 7.0 and Quicktime, and viewed there without the software that was necessary to create it.

Apple claims Quicktime will spur third-party developers into creating a whole range of new software including videoconferencing, store-and-forward video mail, low-cost video editing and dynamic magazines. From what I saw at the conference, that assessment seems correct. The third-party software for application development was already proliferating, and at reasonable prices of between $500 and $1,000.

Quicktime will be installed by developers and customers by dragging the Quicktime extension into the system folder. According to Apple, Quicktime system software is composed of three parts that enable software developers to incorporate dynamic data in a consistent and seamless fashion across applications: the Movie Toolbox; the Image Compression Manager; and the Component Manager.

Apple describes the Movie Toolbox as a set of system software services for developers to incorporate support for "movies" in their applications. "Movies" are any dynamic data such as sound, video and animation.

The Image Compression Manager allows developers to take advantage of the many data compression schemes necessary when working with the large volume of data created when video is digitized for storage on a computer hard disk, Apple said. One minute of uncompressed video data can take as much as 1 gigabyte of disk space, so to make the use of hard disk storage or CD-ROM disk storage practical, compression has to be used to reduce the size of the data.

Apple describes Component Manager as allowing digitizer cards, VCRs, system software extensions and other external system sources to register their capabilities with the Macintosh system so any application can access these capabilities. This solves the past problem of software developers having to write custom software for a piece of hardware, like a digitizer card, in order to use all the features of the card, and update the software each time the hardware was updated, Apple said. Quicktime allows the developer transparent use of all the features of the hardware.

Apple has also announced file formats they wish to standardize for the System 7.0 Quicktime — Movie and PICT. Movie is the new term Apple is using for any dynamic data, and they refer to the Movie file format as the container for this time-based data. PICT is the file format Apple is attempting to standardize for image compression. Apple said it is publishing the specifications for the Movie and PICT file formats, to provide cross-platform application developers with a standard for dynamic data exchange from one computing environment to another. Apple has also set some Human Interface guidelines as well.

Three compression/decompression schemes are provided with the first release of Quicktime, Photo Compressor, Animation Compressor, and Video Compressor, Apple said. These vary from 10:1 to 25:1 on-the-fly file decompression schemes.

Upon release, Apple has stated developers will be offered Quicktime CD-ROM, including the Quicktime extension, documentation, picture and movie utilities, HyperCard, XCMDs, sample code, sample drivers, and sample content. Apple has stated it will also provide customers with a Quicktime Sampler floppy disk set, including the Quicktime extension, picture, movie and conversion utilities and sample content.

Apple claims the Quicktime Developer will be available from Apple, a Quicktime sampler will be available through Apple resellers, and a Quicktime extension will be available through user groups and bulletin boards. Pricing will be determined at time of shipping, Apple said.

Linda Rohrbough writes for Newsbytes News Service.

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26 Department (check one only)

01 ☐ Accounting
02 ☐ Administration Management
03 ☐ Communications
04 ☐ Consulting
05 ☐ EDP/MIS
06 ☐ Education/Training
07 ☐ Engineering
08 ☐ Finance
09 ☐ Marketing
10 ☐ Operations
11 ☐ Personnel
12 ☐ Production/Plant
13 ☐ Purchasing
14 ☐ Research & Development
15 ☐ Sales
16 ☐ Other *(please specify)* _____

Does your firm have personal computers?

☐ Yes: If yes, please indicate quantities below. Complete both columns.
☐ No

A Number currently owned	B Number plan to purchase within next 12 months	
A ___	B _____	IBM PC/XT Compatible
_____	_____	IBM PC/AT (286)Compatible
_____	_____	Macintosh Classic or SE
_____	_____	Macintosh LC
_____	_____	Macintosh IIcx, IIsi, or IIci
_____	_____	Macintosh IIfx
_____	_____	Macintosh Portable
_____	_____	Amiga 500
_____	_____	Amiga 2500 or higher
_____	_____	Atari ST
_____	_____	NeXT Workstation
_____	_____	Sun SPARC system
_____	_____	Other *(Please Specify)*

_____

30 Please estimate your department's budget for computer hardware, software and supplies for the next 12 months:

A ☐ Over $500,000
B ☐ 250,000 to 499,999
C ☐ 100,000 to 249,999
D ☐ 50,000 to 99,999
E ☐ 25,000 to 49,999
F ☐ 10,000 to 24,999
G ☐ Under 10,000

31 Through what channels will your department purchase its hardware softwareand supplies? *(Check as many as apply)*

A ☐ Computer Retail Store
B ☐ Distributor/Wholesaler
C ☐ Value Added Reseller
D ☐ Consultant
E ☐ Mail Order
F ☐ Manufacturer
G ☐ Other _____

In which of the following ways are you yourself involved with personal computers, accessories and supplies?

☐ Use them
☐ Recommend them
☐ Establish specifications
☐ Approve purchase
☐ Acquire them
☐ Evaluate or select suppliers
☐ Train people to use
☐ Sell them
☐ Develop or manufacture
☐ No involvement
☐ Other involvement *(please specify)* _____

_____

32 For how many personal computers or microcomputer systems do you have thisinvolvement? *(Check one only.)*

A ☐ 1-3
B ☐ 4-9
C ☐ 10-24
D ☐ 25-49
E ☐ 50-99
F ☐ 100 or more

PLEASE BE SURE TO SIGN YOUR NAME AND INDICATE YOUR TITLE

Name _____ Title _____

Company _____

Address _____

City/State/Zip _____

Your signature _____ Date _____

Have you answered all questions?

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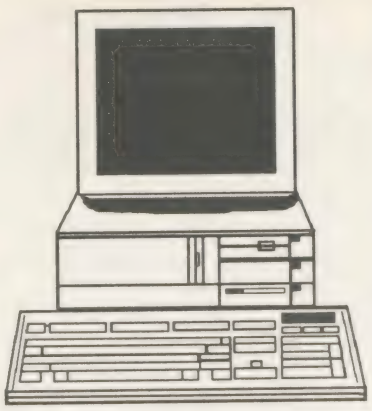

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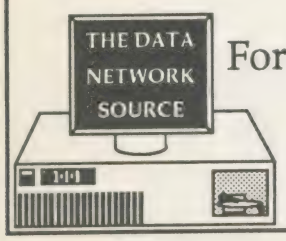

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Originally released in December 1987, the hard-cover edition of **WOMEN, TECHNOLOGY & POWER** (Amacom Books, New York, 282 pp.) is now available directly from the author at **25% OFF THE ORIGINAL PRICE.** (The author will be happy to autograph copies upon request.) Please send a check or money order for **$ 15.95 per copy (shipping & handling included)**, payable to the author, to:

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CALENDAR

Meeting times and locations may change at the last minute; call first for confirmation.

We welcome notices of upcoming events for our Calendar. Notices must be received by the 10th of the month prior to publication. (July 10 is the deadline for our August issue.) Please send information to: Calendar, Boston Computer Currents, 4 Chrysler Road, Natick, MA 01760. Or send your notice via MCI Mail to "MZIENTARA." Or FAX to 617/593-2682.

Please Note: Boston Computer Society (BCS) listings are courtesy of the BCS. BCS events are for members only; non-members are invited to attend one meeting before joining the society. BCS headquarters are at One Kendall Square, Cambridge, MA 02139. Telephone 617/252-0600.

July 8

"Getting Started"

BCS Summer Computer Institute's intensive, week-long (July 8- 12), hands-on workshop, held at Lasell Junior College, Newton, Mass. The first of four workshops this month. Separate classes for PC and Macintosh users. Tuition: $550 per course. Call Director Keith Thompson at 603/672-7221.

July 10

BCS Databases, Alpha Four Cape Cod Chapter

"Developing Applications" with Henry Langelier. 7 p.m. To be held at Computers Without Fear, Deer Crossing, Route 28, Mashpee, Mass. Call Sherry Martin at 508/548-9466.

July 11

BCS Macintosh, 4th Dimension Subgroup

"Data Modeling." Jan Popiel, 4th Dimension system architect, presents an alternative approach to the limitations of traditional data modeling techniques. 7 p.m. MIT Sloan School, Building E51, Room 150, 50 Memorial Drive, Cambridge, Mass. Call Robert Murray at 617/253-0683.

BCS Business, Marketing Subgroup

"How to Increase Sales Without a Workforce." Bill Houbig of the Micro-Group shows how he increased sales 40 percent using computer-based direct mail programs. 6:30 p.m. 128 Entrepreneurs' Center, 200 Fifth Avenue, Waltham, Mass. Call Michael McWilliams at 617/383-1332, days/eves.

July 12

"Advanced WordPerfect 5.1"

A one-day, hands-on seminar offered by Systemetrics, Inc., Renaissance Park, 35 Sockanosset Crossroad, Cranston, R.I. Fee: $195. Call 401/275-2200.

July 15

BCS E-Mail

"E-mail Roundtable." An open forum on electronic mail issues. Bring your questions! 7 p.m. MIT, Building E51, Room 144, Cambridge, Mass. Call Diana Douglas at 617/621-0095.

"Introduction to Windows 3.0"

A one-day hands-on seminar offered by Executive PC Education Centers at its Boston training facility, 230 Congress Street. Fee: $180. Call 617/426-7240.

"Business Solutions"

BCS Summer Computer Institute's intensive, week-long (July 15- 19), hands-on workshop, held at Lasell Junior College, Newton, Mass. The second of four workshops this month. Separate classes for PC and Macintosh users. Tuition: $550 per course. Call Director Keith Thompson at 603/672-7221.

"NetWare V2.2: System Manager"

A three-day (July 15-17) hands-on course offered by Application Systems Group, Inc., 91 Montvale Avenue, Stoneham, Mass. Fee: $895. Call 617/279-2790.

July 16

BCS Hypermedia/Optical Disk Publishing

"Using Macromind Director for Interactive Multimedia Design." Kathleen Gardner of Gardner Associates discusses designing interactive presentations using Macromind Director, as well as other related hardware and software issues. 7:30 p.m. MIT Sloan School, Building E51, Room 329, Cambridge, Mass. Call Lee Mondshein at 617/621-7165.

July 17

"Advanced Lotus 1-2-3"

A two-day (July 17-18) hands-on seminar offered by Boston University Metropolitan College, to be held at the PDG Training Center, 99 Bedford Street, Boston. Fee: $379. Call 508/649-9731 or (outside Mass.) 800-733-3593.

July 18

BCS Networking

"All About the Internet." The Internet is a collection of networks that connect universities, businesses, and other institutions on a worldwide scale. You can log in to remote computers, download public domain software, send electronic mail, and subscribe to news forums and discussions. Best of all, it's free (if you have the right connections). Come and see what the BCS is doing to get Internet access for its members. 7:30 p.m. MIT, Building E51, Room

144, Cambridge, Mass. Call Ken Kennedy at 617/643-3559, eves.

BCS Resource Center

"101 PageMaker Tips." One PageMaker tip every 71.28 (recurring) seconds! You may know some, you might know most, but you won't know them all. David Field demonstrates 101 ways to improve your page layout using PageMaker for IBM or Mac. Fee: $10 for BCS members. 6:30 p.m. BCS Center, Building 1400, One Kendall Square, Cambridge, Mass.

"Introduction to Data Communications"

A two-day (July 18-19) hands-on course offered by Application Systems Group, Inc., 91 Montvale Avenue, Stoneham, Mass. Fee: $595. Call 617/279-2790.

July 21

"Macintosh Desktop Publishing with PageMaker"

A one-day workshop offered by the Boston Center for Adult Education, to be taught by Lance Robinson, President of Bit-by-Bit, a consulting and training firm. Meets at ComputerPlace at the Museum of Science, Boston. Fee: $142. To register, call 617/267-4430 or (24 hours a day) 617/695-8111.

July 22

"Desktop Publishing I"

BCS Summer Computer Institute's intensive, week-long (July 22- 26), hands-on workshop, held at Lasell Junior College, Newton, Mass. The third of four workshops this month. Separate classes for PC and Macintosh users. Tuition: $550 per course. Keith Thompson, 603/672-7221.

July 23

BCS Business

"Communication and Network Technology." Jim Budwey, publisher and editor of COMMUNICATIONS AND COMPUTER NEWS, presents what everyone should know about communication services and technology available for network computing. 7:30 p.m. 128 Entrepreneurs' Center, 200 Fifth Avenue, Waltham, Mass. Call Jim Budwey at 508/359-5564.

"Introduction to Telecommunications"

A four-day course (July 23-26) offered by Learning Tree International (Los Angeles), to be held in Boston. Provides a comprehensive technical introduction to the state-of-the-art in telecommunications. Fee: $1,795. Call 800-421-8166.

July 24

"Digital Multimedia: Multimedia Tools, Titles & Applications"

A three-day conference (July 24-26) sponsored by BIS Strategic Decisions (Norwell, Mass.), to be held at The Sheraton Boston Hotel and Towers, Boston. Call 617/982-9500.

"WordPerfect 5.0/5.1 Step by Step"

A two-day (July 24-25), hands-on seminar offered by Systemetrics, Inc., Renaissance Park, 35 Sockanosset Crossroad, Cranston, R.I. Fee: $390. Call 401/275-2200.

July 25

"Networking for End-Users"

A one-day hands-on seminar offered by Executive PC Education Centers at its Marlboro training facility, 313 Boston Post Road West. Fee: $180. Call 617/426-7240.

July 27

"How to Develop an Effective Database Application for your Company"

A half-day (9 a.m. to 12 p.m.) seminar on how to determine whether a database application project is feasible, cost effective, and whether (or when) to call a project quits. Sponsored by BCS. To be held at the BCS IBM PCUG Classroom, 1 Kendall Square, Cambridge, Mass. Fee: $25. Limit: 20 people. Call Bill Dodson at 617/646-8799.

"A Crash Course in dBase III+/IV"

A one-day course offered by the Boston Center for Adult Education, to be taught by Paul Dumas, Director of NCI Systems, a consulting firm and VAR. Meets at ComputerPlace at the Museum of Science, Boston. Fee: $142. To register, call 617/267-4430 or (24 hours a day) 617/695-8111.

July 29

"Desktop Publishing II"

BCS Summer Computer Institute's intensive, week-long (July 29- August 2), hands-on workshop, held at Lasell Junior College, Newton, Mass. The last of four workshops this month. Separate classes for PC and Macintosh users. Tuition: $550 per course. Call Director Keith Thompson at 603/672-7221.

July 30

"Windows Technical Workshop"

A FREE half-day workshop — designed by the Microsoft Windows development team — for advanced Windows users, resellers, consultants, support personnel and MIS managers seeking to enhance their Windows computing capabilities. To be held in Boston. Call 800-642-7676.

AUGUST PREVIEW

August 6

"MacWorld Exposition Boston"

Billed as "the largest Macintosh event in the world," MacWorld Expo will be held August 6-9 at the World Trade Center and the Bayside Exposition Center. More than 400 companies will exhibit. Prices at the door: All-Conference Sessions & Exhibits, $80 (cash only); Exhibits-Only, $25 (cash only). Call the MacWorld Expo/Boston Hotline at 617/361-3941.

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Time _____

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To have your group or BBS listed in the User Group and Bulletin Board section, we must receive your information and payment a month before publication. We do not accept listings for sexually-oriented bulletin boards. We reserve the right to edit listings.

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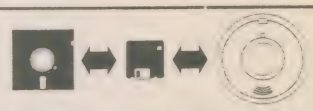

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By Lincoln Spector

An American in Palo Alto

What would the Gershwins have made of the personal computer revolution? Alas, George didn't live to see even the Univac. True, his brother and lyricist Ira was around long enough to have seen my first Osborne computer, but he never accepted my invitation to do so.

Perhaps it's a good thing their work was never done on today's writing and composing machines. After all, Ira would probably have taken the DOS route, while George, no doubt, would have gone with the Mac, making connectivity a major issue. In fact, compatibility problems might have lead them to break off their career with a cry of Let's Call The Whole Thing Off.

You say ASCII, I say don't ask me,
You say Drive C:, and I say why me?
ASCII, ask me, Drive C:, why me?
Just turn the whole thing off.

You say do a DIR, and I say what ails yer,
You say defragger, my mind — it does stagger.
A DIR, ails yer, 'fragger, stagger.
Just turn the whole thing off.

But oh, if we turn the whole thing off I can't compute,
And oh, if I can't compute, my job's not worth a hoot.

So if you tell me ASCII, I will not ask ye,
And when you say Drive C:, I'll format it quickly.
ASCII, ask ye, Drive C:, quickly,
"I know about computers," I'll scoff,
Let's turn the whole thing off.

❖❖❖

Maybe not. Maybe they would have fallen in love with computers from the outset. Maybe the joy of working in a new medium would have had them shouting 'S Wonderful.

'S portable, 's miniature,
This notebook's made for me;
'S fast they say, 's VGA,
On its backlit 'CD.

It makes my briefcase weigh much less;
The keyboard cramps my fingers, I confess.
'S portable, 's miniature,
This notebook's made for me.

'S keys are straight, 's feather weight,
This notebook's made for me;
'S big hard disk, 's access brisk,
All runs on battery.
These praises; I have echoed 'em,
I wish it had a tiny fax modem;
'S portable, 's miniature,
This notebook's made for me.

❖❖❖

The next question is: Would computers have affected the Gershwins' talent? If George had had access to Macs, MIDI chips, and — heaven help us —drum machines, would he still have been a man who could honestly say I Got Rhythm.

I want graphics,
I want color,
I want pixels;
Wouldn't work on your dinosaur.

I want RAM SIMMs,
Great, big hard disk,
I want fast cache;
Wouldn't work on your dinosaur.

Obsolescence,
Couldn't catch me,
It won't match me
For a year or more.

I want Compaq,
I want Weitek,
On-screen PostScript;
Wouldn't work on your dinosaur,
Wouldn't work on your dinosaur.

❖❖❖

Maybe George and Ira wouldn't have even gone into writing songs if they were alive today. Maybe they would have become programmers. Hey, it's Nice Work If You Can Get It.

The brand-new features that at once seem needed,
Like multitasking fonts or objects pleaded,
They're the ones that you can't live without,
There's better versions now; your life is changed, no doubt.

So you write your check, you get that update,
Install it on your disk; you just can not wait,
Then you try it on a real chore,
And your system tells you to abort or ignore.

Sending data to printer, while faxing to a place far away;
Nice trick when they debug it, and they'll debug it, so they say.
Scaling new fonts for PostScript, for Hewlett-Packard, and VGA;
Nice trick when they debug it, and they'll debug, so they say.

Just imagine something
Working for the very first time.
Can't they do more testing;
Would that be so much of a crime?

Putting your graphs into boxes, drop-shadows of a light gray;
Nice trick when they debug it, and they'll debug it, so they say.
Linking eight different tables, with pop-up quotations of Zen;
Nice trick when they debug it; if they debug it — don't ask when.

❖❖❖

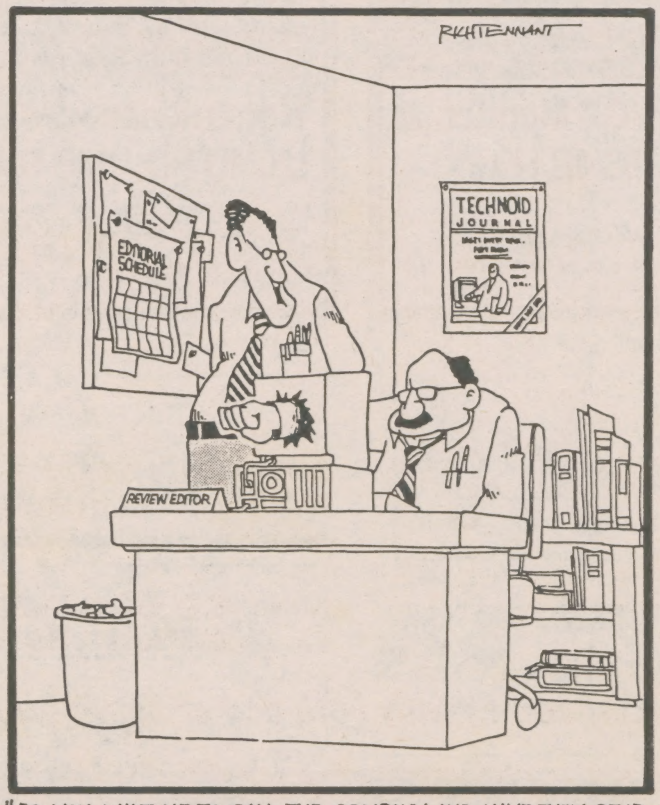
Maybe it's a good thing the Gershwins lived when they did. The brothers wrote great songs back then, and I for one have gotten a lot of joy out of them. They Can't Take That Away From Me.

The way you're beautified,
Your buttons in 3D,
The way your icons glide;
Oh, no, you stole that interface from me.

The way your fonts bitmap,
For WYSIWYG to see,
And your screens overlap;
Oh, no, you stole that interface from me.

We may never, ever meet again 'til that fateful day in court,
While developers from me to you do port...

The menus in my bar.
You're a Xerox copy,
Of the original Star;
Oh, no, you stole that interface from me.
Oh, you stole that interface from me.



"DO YOU WANT ME TO CALL THE COMPANY AND HAVE THEM SEND ANOTHER REVIEW COPY OF THEIR DATABASE SOFTWARE SYSTEM, OR DO YOU KNOW WHAT YOU'RE GOING TO WRITE?"

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Lincoln Spector is the author's real name, appearing on both his driver's license and his birth certificate. An Assistant Editor at PC World, Lincoln can be reached via MCI mail as LSPECTOR.

Gigglebytes is a satirical column loosely based on computer industry events, trends and people. The opinions expressed in this column are the writer's and do not necessarily reflect those of Computer Currents.

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- ❖ 101-key enhanced keyboard
- ❖ AT size case with 200 Watt power supply*
- ❖ Microsoft DOS 3.3, 4.01 or 5.0

Note: *386SX comes in Mini-Tower case with 200 Watt power supply.
+486-33 comes in Full-Tower case with 220 Watt power sypply.

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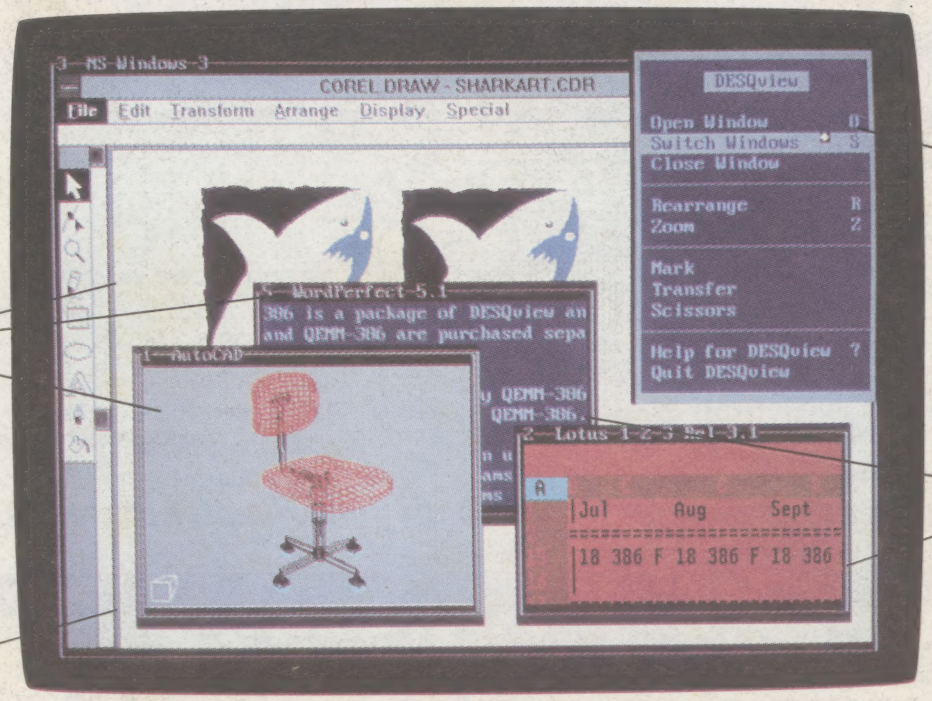
Better Windows

Solve memory problems
QEMM 386 makes the most of every last 'K'. DESQview uses that memory to run multiple programs.

Multitask
Run multiple programs side-by-side in windows. 'Background' programs can continue to run.

See text and graphics side-by-side
Reference information in your graphics program while writing your report.

Run Windows programs
DESQview even lets you run Microsoft Windows.



Easy menu access to programs and DOS services
Access programs or DOS in a window with just a few keystrokes or mouse clicks. It's that simple.

See multiple files
If your programs allow it, DESQview lets you run the same program in two or more windows. Great for comparing files

Cut and paste data
Transfer data between programs with a few keystrokes.

Handle large programs
Run standard DOS programs side-by-side with DOS-extended programs like 1-2-3 Release 3.

DESQview. The Multitasking, Windowing Environment.

Once the power user's secret, DESQview has been discovered by computer knowledgeable people everywhere. Over 1,000,000 people have bought DESQview.

INFO WORLD Product of the Year 1986, 1987, 1988, 1989 — PC WORLD BEST BUY — PC MAGAZINE EDITORS' CHOICE (NOVEMBER 24, 1987 DESQview) — PC MAGAZINE EDITORS' CHOICE (FEBRUARY 28, 1989 DESQview 386) — PC MAGAZINE EDITORS' CHOICE (OCTOBER 16, 1990 DESQview 386, Ver. 2.2) — PC Computing MVP MOST VALUABLE PRODUCT 1990

Multitasking; windowing, using keyboard or mouse commands, it's all easy with DESQview.

DESQview 386 2.3 lets you use your favorite DOS and DOS-extended programs in windows side-by-side on 386SX, 80386 and i486 PCs. As you can see above, you can even run Microsoft Windows within DESQview.

DESQview 2.3 gives 8088, 8086 and 286 PCs with additional memory most of the same capabilities with surprisingly little performance trade-off.

Whatever programs you use—DOS, extended DOS or Windows—and whatever hardware you have, whether 8088 or i486 or something in between, DESQview is still the best way to get the most out of the hardware and software you own today.

DESQview. When you look into it, it's the obvious choice.

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